Infinity

RS-10/RS-12

SERVO CONTROLLED SUBWOOFER

SERVICE MANUAL

Infinity Systems, Inc.
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Woodbury, New York 11797

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SPECIFICATIONS

Frequency Response	
RS-10	40 - 200 Hz
RS-12	35 - 200 Hz
Crossover Frequency	
RS-10	50 - 200 Hz (Continuously Variable)
RS-12	50 - 200 Hz (Continuously Variable)
Amplifier Output	
RS-10	100 Watts (RMS)
RS-12	150 Watts (RMS)
Sensitivity	
RS-10	LL: 300mV HL: 6V
RS-12	LL: 600mV HL: 12V
Nominal Input Impedance	LL: 100kΩ HL: 4.7KΩ
Driver Complement	
RS-10	10" IMG Woofer - (2 Ohm DCR)
RS-12	12" IMG Woofer - (2 Ohm DCR)
Inputs	Line Level and Speaker Level
Outputs	100 Hz High Pass Filter
Dimensions	
RS-10	13 5/16 x 13 5/16 x 13" (H x W x D)* (338 x 338 x 330mm)
RS-12	16 ½ x 16 ½ x 17 1/4" (H x W x D)* (419 x 419 x 438mm)

* Does not include 1 ¾" high foot

POSITIONING

Since the installation of a subwoofer is somewhat more complicated than installing full range speakers, it is essential you read this section very carefully prior to connecting the subwoofer to your system. Should you have questions relating to your installation, it is advisable to call either your dealer or Infinity's Customer Service Department for advice.

The performance of the Servo Subwoofer is directly related to its placement in the listening room and how you align the subwoofer with its satellite speakers. Setting the volume of the subwoofer in relationship to the left and right speakers is also of critical importance because it is essential that the subwoofer integrates smoothly with the entire system. Setting the subwoofer's volume level too high will result in an overpowering, boomy bass. Setting the volume level too low will negate the effect of the subwoofer.

The metal plate acts as the heat sink for the subwoofer's internal amplifier. Do not place pillows or other objects against it.

It is recommended that the Servo Subwoofer be placed at least 2 to 3 feet away from a television or a computer's disc drive system to prevent smearing the colors of the T.V. picture or erasure of the magnetic drive.

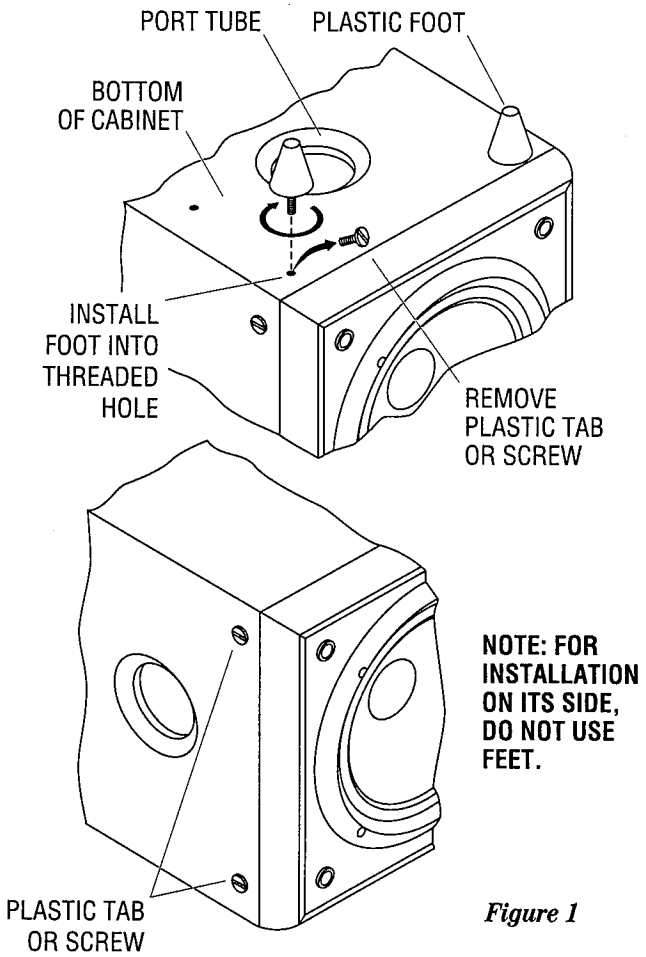

PORT TUBE
PLASTIC FOOT
BOTTOM OF CABINET
INSTALL FOOT INTO THREADED HOLE
REMOVE PLASTIC TAB OR SCREW
NOTE: FOR INSTALLATION ON ITS SIDE, DO NOT USE FEET.
PLASTIC TAB OR SCREW

Figure 1

Here are several additional facts on installation which may prove useful. It is generally believed by most audio authorities that low frequencies (below 125 Hz) are non-directional and, therefore, placement of a subwoofer within any listening room is not critical. While in theory it is true that extremely low frequencies because of their larger wave lengths are basically non-directional, the fact is when installing a subwoofer within the limited confines of a room, reflections, standing waves and absorptions generated within the room will strongly influence the performance of any subwoofer system. Specific location of the subwoofer, therefore, becomes important and it is strongly recommended you experiment with room placement before choosing a final location. The RS subwoofers should be installed on their sides if required. *Refer to figure 1.*

Placement will depend upon your room and the amount and quality of bass required. For example, if your room permits placement of the subwoofer near either satellite, the preferred position (using the four legs) is to position the bass port downward toward the floor. If bass response is too heavy, then removing the feet and placing the enclosure on its side will diminish some of the heaviness. (Be sure to plug all four mounting holes for the feet with the plastic screws supplied.) If you decide to place the subwoofer on its side, never place the port too close to a wall or piece of furniture as this will prevent the port from operating properly. Since the port is an integral part of the subwoofer's design, it should always be permitted free access to the listening room without obstruction to the pressure emerging from it. Careful experimentation will enable you to determine the best position for the subwoofer and whether you want it installed on its legs, or mounted on its side.

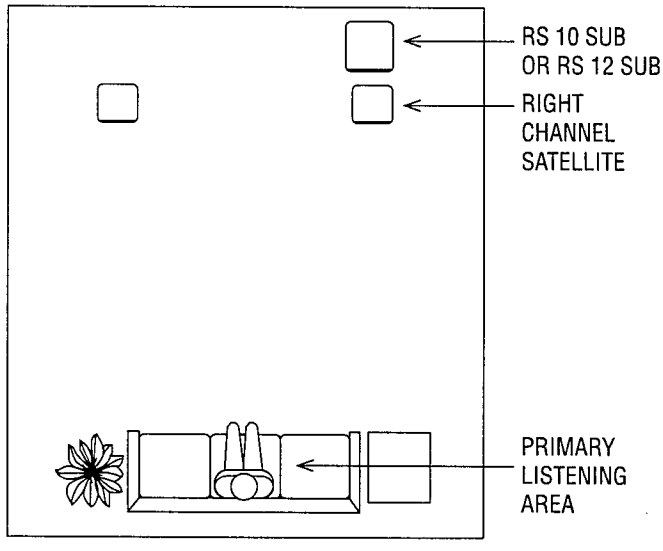


Figure 2

POSITIONING

Here are some useful hints:

1. If you want maximum bass and there is about 2-2½ inches of clearance between the port and the floor or rug, mount the subwoofer on the four legs supplied.

2. If the clearance is less than 2-2½ inches, try placing the subwoofer on its side with the port directed toward the listening area. Experimentation with the port direction may be useful. At times directing the port away from the listening area (to the side) may be advantageous because this may create a better blend of bass within the listening room.

3. If bass response seems inadequate, place the subwoofer on its legs and move it closer to a wall or corner. If bass becomes too heavy, try turning the subwoofer on its side with the port facing away from the wall. This will tend to diminish bass output.

It will take time and patience to find the most pleasing acoustic location for your subwoofer. Testing for sonic balance and blending should always be made for your normal listening position using a wide range of source material. As a suggested starting point, begin with your Servo Subwoofer behind your right channel satellite speaker, about 3 or 4 inches form the wall. (We suggest trying this location first because in an orchestra, the bass instruments are usually located in the back and to the right.) *Refer to figure 2.*

IDENTIFICATION OF CONTROLS AND FUSE SIZES. CONNECTING THE A.C.

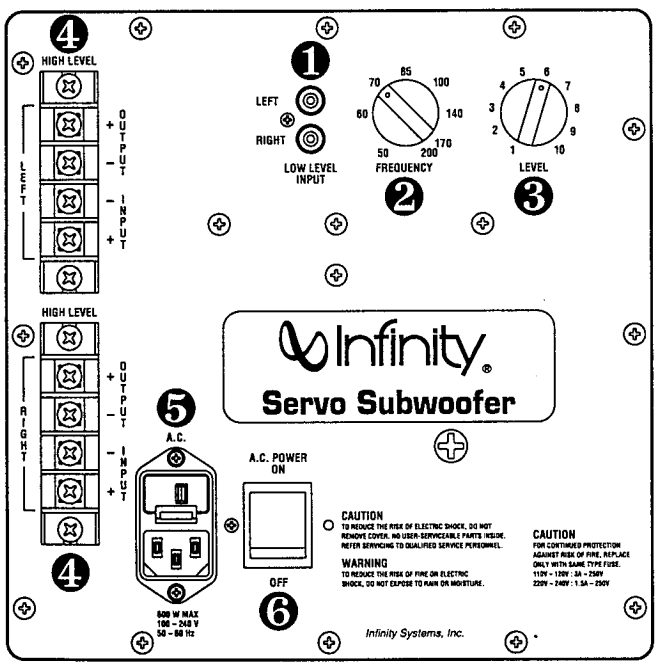


Figure 3

NOTE: The rear panel shown is a RS 10 SUB. The rear panel of the RS 12 SUB has the same nomenclature except there is an additional finned heat sink under the controls.

Refer to *figure 3* to identify the controls of your subwoofer's internal amplifier:

❶ Low Level Input jacks: connect to preamp outputs

❷ Frequency: controls upper corner roll-off point

❸ Level: controls volume of subwoofer

❹ High Level Input and Output terminal strips

❺ Detachable A.C. line cord with fuse drawer

❻ A.C. power switch

Turn off your entire audio system prior to connecting your subwoofer. Make sure the subwoofer's ON/OFF switch is in the "OFF" position.

Verify the correct voltage and fuse rating for your A.C. line voltage. (The subwoofer is shipped with the line voltage already set for 120 volts, 60 Hz.) To change to another setting, simply pull the fuse drawer out of its socket and turn it until the proper voltage appears in the "window". Replace the fuse with the correct fuse size then re-insert the fuse drawer into its receptacle.

Ratings for the A.C. line voltage fuse are as follows:

VOLTAGE	RS 10 FUSE SIZE	RS 12 FUSE SIZE
U.S.A. 120V / 60Hz	3 amp slow-blow	4 amp slow-blow
100V / 50 / 60Hz	3 amp slow-blow	4 amp slow-blow
220V / 50Hz	1.5 amp slow-blow	2 amp slow-blow
240V / 50Hz	1.5 amp slow-blow	2 amp slow-blow

Connect the subwoofer's A.C. Line Cord (5) to your preamplifier's or receiver's unswitched A.C. convenience outlet. If required, use a heavy-duty extension cord to reach the outlet. If the A.C. outlet is 2-prong, use a floater ("cheater") plug between the subwoofer's power cord and the outlet.

If using an unswitched A.C. outlet on your receiver or amplifier is not possible, connect your subwoofer to an unswitched A.C. wall outlet. The RS 10 SUB and RS 12 SUB include an "Auto-Sensing" circuit which automatically turns the subwoofer on when detecting music or voice signals. The absence of an audio signal for approximately six minutes will cause the auto-sensing circuit to shut down the system.

NOTE: The red power LED is illuminated at all times when the subwoofer is connected to an A.C. wall receptacle and the On/Off Power switch is in the "ON" position. The LED will remain "ON" even after the automatic sensing circuit switches the amplifier "OFF" because the power supply will continue to receive a very small amount of current from the A.C. wall receptacle. This current is needed to activate the automatic sensing circuitry. Safety codes in many parts of the world specify that as long as an electronic device receives even "trickle" current from the A.C. line, a light must indicate that power is being drawn.

It is always advisable to switch off the subwoofer with the power switch if the subwoofer will not be used for an extended period of time.

CONNECTING YOUR SUBWOOFER

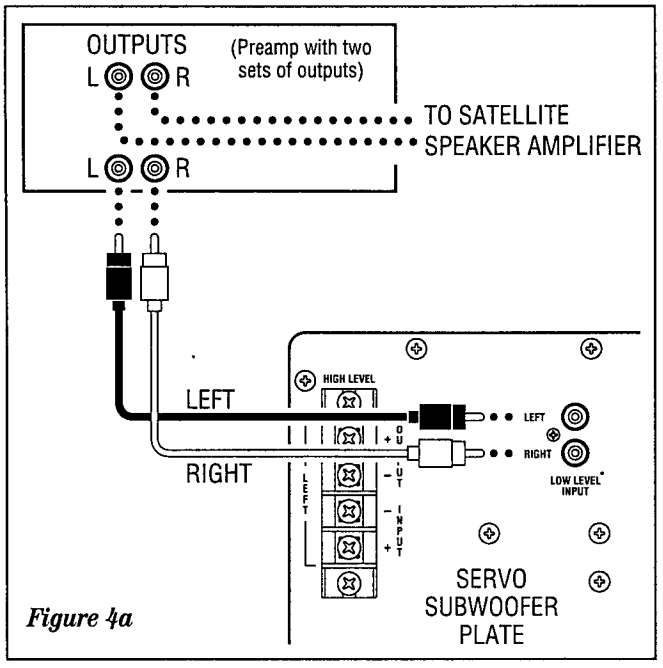


Figure 4a

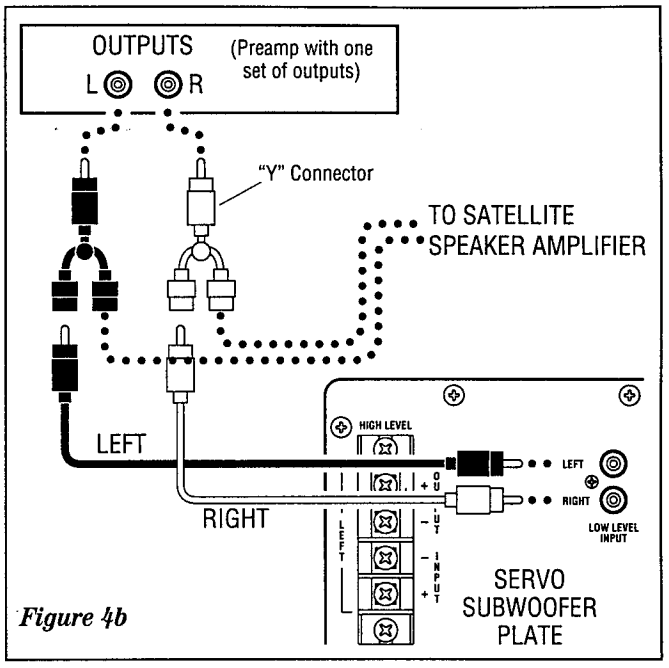


Figure 4b

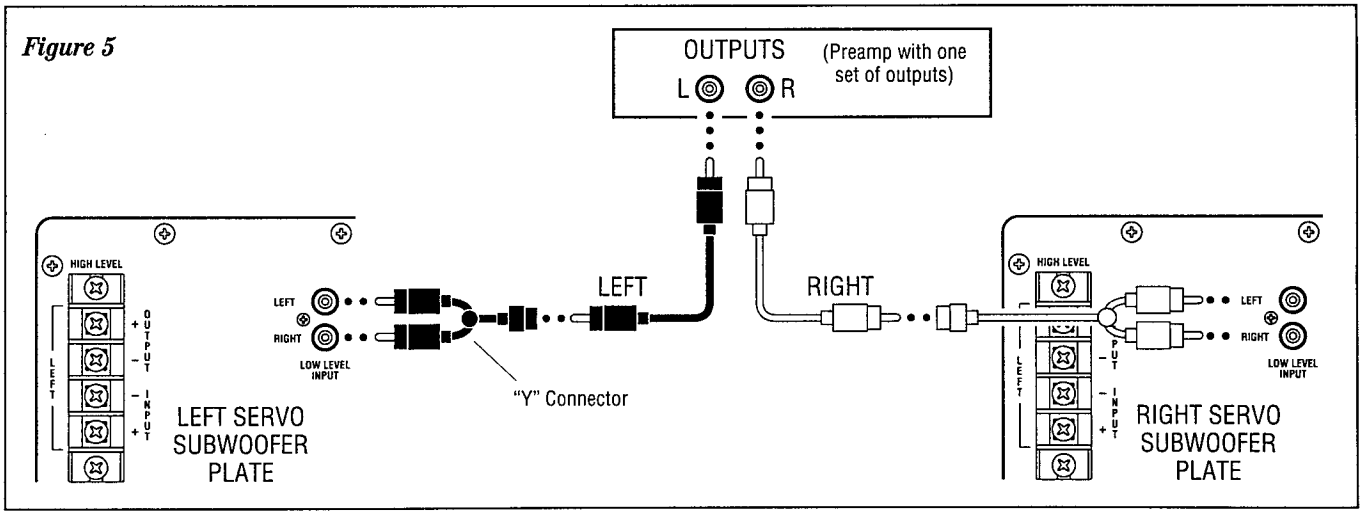
There are several ways to connect your RS 10 SUB or RS 12 SUB. Read this section carefully to determine which method is best suited for your installation.

The RS 10 SUB or RS 12 SUB may be fed directly with a low level signal taken from your preamplifier's output by using the second set of output jacks on the rear of your preamplifier *(see figure 4a).* If your preamplifier has only one set of outputs you may use two (2) "Y" connectors *(see figure 4b)* to connect your subwoofer. Use standard shielded leads terminated at each end with male RCA connectors. Connect one end of each stereo pair of leads to your preamplifier's left and right outputs and connect the other end to the corresponding left and right LOW LEVEL INPUTS (1) on the subwoofer.

NOTE: If you are using a tube preamplifier, it is not recommended to use the above described method to connect your subwoofer if the connecting leads will be longer than 10 feet (3 meters). A tube preamplifier may not be able to handle the capacitance introduced by leads over 10 feet in length.

When using a single subwoofer, you MUST use a stereo pair of low level leads from your preamplifier's outputs. When using two subwoofers, one for the left and another for the right channel, connect the left preamplifier output to BOTH the left and right LOW LEVEL INPUTS of the subwoofer used for the left channel by using a "Y" connector at the subwoofer's input and the right channel preamplifier output to both jacks of the right channel subwoofer in the same manner *(see figure 5).*

Figure 5



CONNECTING YOUR SUBWOOFER

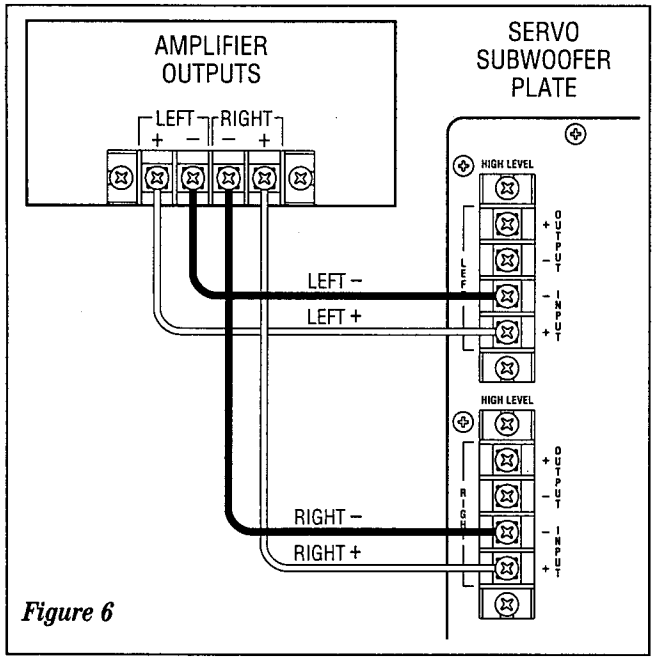


Figure 6

The RS 10 SUB and RS 12 SUB may be connected to your system using the HIGH LEVEL INPUTS (4) on the plate located on the rear panel of the subwoofer. Use ordinary lamp cord maintaining proper polarity (+ to + and - to -). Attach the lamp cord to the Left and Right HIGH LEVEL INPUTS on the subwoofer and the other ends to the proper left and right OUTPUTS on your amplifier or receiver *(see figure 6).*

If you plan to use two subwoofers (one for the left and the other for the right channel) connect wires from the left and right OUTPUT on your power amplifier or receiver and attach the other ends to the corresponding HIGH LEVEL INPUTS on each subwoofer. Observe polarity *(see figure 7).*

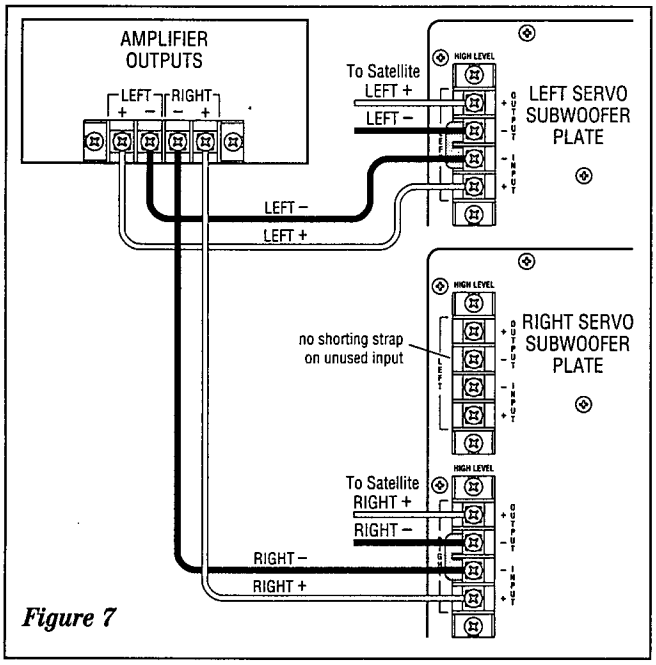


Figure 7

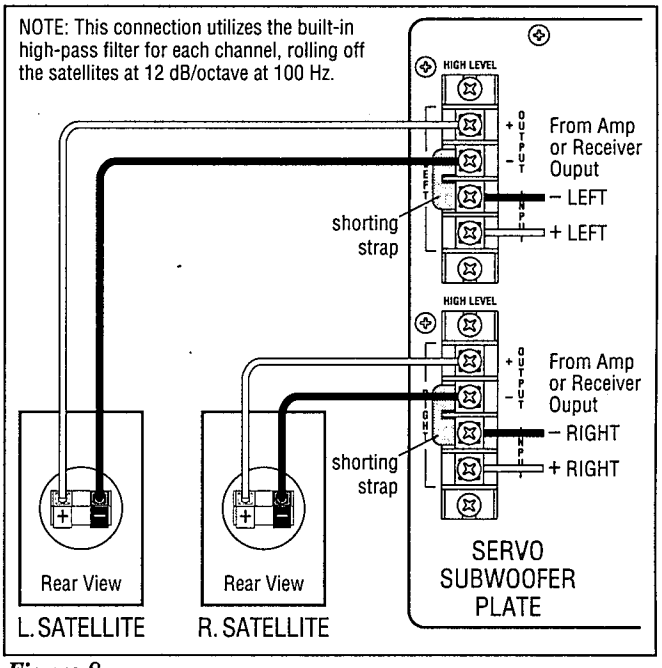


Figure 8

Connecting your satellites to the subwoofer (or subwoofers if you are using separate left and right channel subwoofers) can be accomplished in one of two ways. Read the following text carefully before deciding which method you wish to use.

If you are using small satellites which have woofers that are from five (or smaller) to eight inches in diameter, it is advisable to connect them as shown in *figure 8.* This will allow a special high pass filter (a filter which passes frequencies above 100 hertz to the satellites and gently rolls off lower frequencies below 100 hertz so they do not create problems which could either damage the satellites or introduce distortion into the system) to be introduced into the system. This is the preferred installation method for all small satellites. The shorting straps which tie the negative terminals of the LEFT and RIGHT outputs and inputs together must remain in place for this installation.

If you are using speakers with larger woofers that are capable of extending bass response to below 60 hertz, it may be advisable to connect them by bypassing the high pass filter that is part of the HIGH LEVEL OUTPUT terminal *(see figure 9).* When using larger speakers as part of a satellite system it is advisable to experiment to determine which method of connection is best suited for a particular type of installation. At times, allowing the satellites (when they are large bookshelf or floorstanding speakers) to perform full range without including the high pass filter will result in deeper, more satisfactory bass. If bass response is too heavy in the 60-90 hertz region, using the high pass filter may improve overall response by reducing "bass heaviness" in this region. It pays to experiment with both connection methods to determine which sounds best in your system. Remember to remove the shorting straps when the high pass filter is not required and to install the shorting straps between the minus (–) terminals on the LEFT and RIGHT output/input terminal strips when the high pass filter is required.

OPERATION

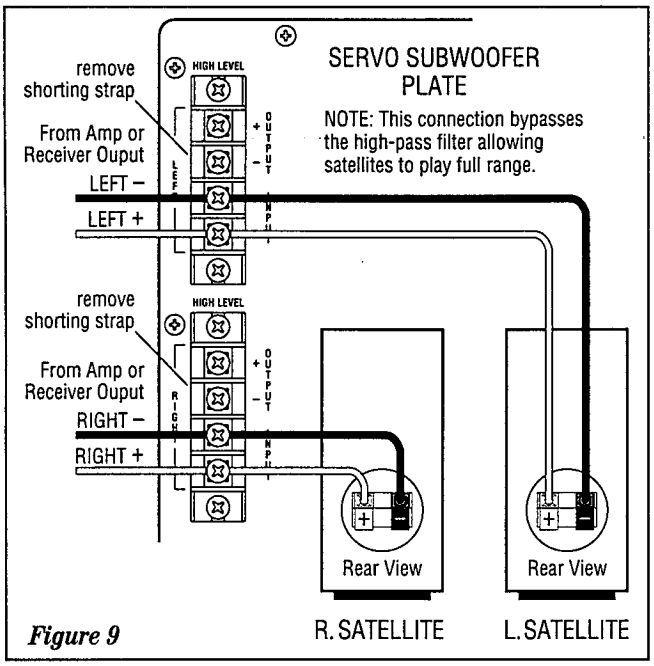


Figure 9

1. Set the subwoofer's Level Control ❸ *(Fig. 3)* to 12 o'clock.
2. Set the subwoofer's Low Frequency Rolloff Control ❷ *(Fig. 3)* to 12 o'clock.
3. Switch the subwoofer's A.C. power switch ❻ *(Fig. 3)* to the "ON" position.
4. Turn on your entire audio system.
5. Turn the Level Control ❸ *(Fig. 3)* to its mid position. If no sound emanates from the subwoofer after the auto-sensing system turns it on, check the A.C. line cord and input cables. Are the connectors on the cables making proper contact? Is the A.C. plug connected to a "live" receptacle?
6. Once you have confirmed that the subwoofer is active, proceed by playing a CD, record, or cassette. Use a selection that has ample bass information.
7. Set the overall volume control of the entire system to a comfortable level. Begin with the subwoofer's Frequency ❷ *(Fig. 3)* and Level ❸ *(Fig. 3)* Control at the 12 o'clock position. Adjust the subwoofer's Level Control ❸ *(Fig. 3)* until you obtain a pleasing blend of bass. Bass response should not overpower the room but rather be adjusted so there is a harmonious blend across the entire musical range. Many users have a tendency to set the subwoofer level too loud following the belief that a subwoofer is there to *produce lots of bass.* This is not entirely true. A subwoofer is there to *enhance bass,* extending the response of the entire system so the bass can be felt as well as heard. However, overall balance must be maintained; otherwise, the music will not sound natural. An experienced listener will set the level of the subwoofer so its impact on bass response is always there but is never obtrusive.
8. The Frequency Control ❷ *(Fig. 3)* sets the frequency at which the subwoofer rolls-off, adjustable from 50 to 200 Hz. The setting of this control depends on the low frequency capabilities of your satellite speakers, system placement, and other factors affecting the mid-bass region. Turn the control UP (clockwise) until you feel there is too much mid-bass information (around 100Hz) then back the control down a bit until that area sounds more natural. If you are pleased with the mid-bass but want to hear more low bass, turn the Frequency Control DOWN a bit and the Level Control UP by about the same amount. This will increase low bass while leaving the mid-bass sounding the same as it did before the adjustment. To get a reduction in low bass without changing mid-bass, turn the Frequency Control UP and the Level Control DOWN.
9. Room placement of the subwoofer is the most critical aspect of its installation. It will be necessary for you to try various locations in your listening room before you choose the final location. Some possible starting points include: behind the right channel satellite speaker, along the back wall between the satellites, along a side wall (but not too close to a corner), or behind a couch or a chair.

In general, the closer the subwoofer is to walls and corners, the greater the effect of low frequency enhancement. Experiment with the Frequency and Level Controls in different locations until you are pleased with the result you obtain from your particular application.

A WORD OF ADVICE

The Low Frequency Rolloff and Level Controls may be set anywhere within their rotation. However, it will be a most unusual circumstance if you have to set the Level Control completely clockwise. This may indicate an unbalanced condition in your system (too much bass) or an especially large room, or room placement may not be correct. It would, therefore, be worthwhile if you tried several other locations before concluding that the Level Control must be set at maximum.

In the event that the subwoofer is located so far from the listening area that its effect is not as prominent as desired, you may find that reversing the phase of the High Level Input wires may help. Connect the "+" speaker output terminals to the "–" High Level Input terminals of the subwoofer on BOTH channels. (Reversing the phase on only one channel will cancel out the signal to the subwoofer's amplifier, resulting in less output from the subwoofer.)

PROTECTION CIRCUIT

The RS 10 SUB and RS 12 SUB include special protection circuitry which will trigger an internal relay in the event of (1) D.C. offset and (2) thermal overload (80°C; 176°F). The protection circuit also keeps the relay open for approximately 2 seconds after the power switch is turned on. This will prevent power supply charging transients from reaching the woofer. The same protection occurs when the system is turned off.

AUTO LIMIT OVERLOAD PROTECTION

Automatic power limiter circuitry prevents the built-in amplifier from being overdriven (clipped) or from overdriving the woofer. The system is based on a Light Dependent Resistor (LDR) attenuator which limits the input signal to the amplifier in response to the amplifier's output. It is completely automatic with no user adjustments. In addition to preventing system overdrive, the Auto Limit circuitry also prevents distorted sound, since the amplifier cannot be driven into clipping. The circuitry enhances system reliability and prevents accidental abuse or damage.

BUILT-IN SUBSONIC FILTER

Each RS Subwoofer includes a built-in third order (18dB per octave) active subsonic filter to prevent amplifier or speaker distortion or overload from noise or signals that cannot actually be heard.

A WORD ABOUT TONE CONTROLS

The tone controls on your electronic components (preamp, receiver, etc.) should be used with the utmost discretion. Excessive boost can create severe power demands on your power amplifier. Maximum bass boost can create a demand for literally hundreds of watts in the bass region, whereas, in the "flat" position, or with the tone controls switched out of the system, your average listening level may be impressively an realistically loud at less than 10 watts. The remaining power capacity required is on reserve for power peaks on sharp transients and powerful crescendos.

CARE OF YOUR SUBWOOFER

Your Infinity subwoofer cabinet is finished with a heavy duty, high quality vinyl which requires very little maintenance. Keep the cabinet clean by dusting it occasionally with a damp cloth or use a good quality furniture polish to maintain its original luster. (When using aerosol products, always spray the cloth, not the speaker, to prevent any of the product from drifting onto the driver or amplifier.)

FEEDBACK

If the bass seems boomy, or you notice a rumbling sound when listening to record albums, the cause may be acoustic feedback. This means that low frequency vibrations from your speakers are reaching the turntable. To help isolate the turntable from these vibrations, place the turntable on a heavy, solid support, as far away as possible from the subwoofer. If you continue to experience difficulties after experimenting with placement, consult your Infinity dealer.

NOTE: CD players are also susceptible to acoustic feedback and should be placed on solid supports to isolate them acoustically. Another method to isolate the CD player is to place it on four isolation feet available at your local dealer.

IN CASE OF TROUBLE WITH YOUR SUBWOOFER

If the subwoofer sound is distorted, stops playing, or otherwise seems to be malfunctioning, first determine if the problem is in the subwoofer or the wiring and/or other audio components. If the problem also affects the satellite speakers, the cause is most likely in your electronics. If it is only noticed in the subwoofer, make sure that all connecting cables are correct and in proper working condition. Make sure the subwoofer is plugged in and turned on, and check its A.C. line voltage fuse.

If everything seems to be in good working order and the subwoofer still malfunctions, DO NOT ATTEMPT ANY REPAIRS! Contact your Infinity dealer and get the name of the authorized Infinity service center near you. If there is no facility near you, contact Infinity's *Customer Service Department* at (818)407-0228, or write:

Infinity Systems, Inc. – CUSTOMER SERVICE
20630 Nordhoff Street, Chatsworth, CA 91311 U.S.A.

NOTE: Do not ship your subwoofer for service without prior approval (RETURN AUTHORIZATION), and do not ship without enclosing a copy of your original bill-of-sale.

LIMITED WARRANTY

Who is protected by the warranty?

Your Infinity warranty protects the original retail purchaser and all subsequent owners, during the stated warranty period, from any failure as a result of an original manufacturing defect so long as: (1) your Infinity product was purchased within the fifty United States, or purchased by military personnel from an authorized military outlet, and (2) the original dated bill of sale is presented whenever service is required during the warranty period. This warranty does not apply to products purchased elsewhere; other purchasers should contact their local Infinity distributor for warranty information.

How long is the warranty period?

Speaker components are covered for parts and labor for a period of five (5) years. Electronic assemblies are covered for parts and labor for a period of one (1) year.

What does the Infinity warranty cover?

Except as specified below, this warranty covers all defects in original materials and workmanship. The following are not covered: damage caused by accident, misuse, abuse, neglect, product modification; damage occurring during shipment; damage caused by failure to follow instructions in the owner's manual, including failure to perform recommended periodic or routine maintenance; damage resulting from repairs by someone not authorized by Infinity; claims based upon any misrepresentations by the seller; and any Infinity product on which the serial number has been altered, defaced or removed.

Who pays for what?

During the period that both parts and labor are covered by this warranty, Infinity will pay all of the labor and material expenses to repair a warrantable defect; during the period that parts ONLY are covered by this warranty, Infinity will pay for all materials to correct warranted defect, but you must pay for the labor charges.

How can warranty service be obtained?

In the event that your Infinity product requires service, you should first contact the Infinity dealer from whom the product was purchased or if this is not practical, contact Infinity directly (ATTN: Customer Service) at 20630 Nordhoff Street, Chatsworth, CA 91311 U.S.A.; (818) 407-0228. We may direct you to an authorized service center for Infinity products or ask you to send them to us for repair. In either case, you must present your original dated bill-of-sale to establish warranty coverage. Do not send your product to us without prior authorization from our Customer Service Department.

You are responsible for transporting your product for repair and for payment of all shipping charges; however, Infinity will pay the return shipping charges (in the event you return the product to us) if the repairs are covered by warranty. If you experience difficulty in transporting your product or are in need of packing materials, please advise us and we may be able to suggest alternative procedures and/or provide adequate packing materials.

Limitation of Implied Warranties:

All implied warranties, including fitness for a particular purpose and merchantability are limited in duration and length to the warranty period for your product.

Limitation of Incidental or Consequential Damages:

Infinity is not responsible for any incidental or consequential damage of any kind. Our liability is limited to the repair or replacement, at our option, of a defective product. some states do not allow limitations on how an implied warranty lasts and/or do not allow the exclusion of incidental or consequential damage, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

NOTE: In the event that there is a difference between this warranty and the provisions in any advertisements, product brochures or packaging cartons, the terms of this warranty will prevail.

TROUBLESHOOTING GUIDE FOR 036-6221/036-6421 AMPLIFIER (RS-10/RS-12 SUBWOOFER)

UUT = Unit Under Test

This repair procedure will solve the vast majority of repair problems encountered in the field.

We are assuming at this point the unit has been tested and there is either distortion, no output, "breathing" from woofer, it blows fuses instantly, etc.

If the problem is no output whatsoever and the woofer does not react at all ***after hearing both relays close,*** first disconnect and check the DCR of the woofer with a DMM; it should measure 1.7 - 2.0 Ω. Another simple external problem that can be responsible for little or no output is: **using the high level input terminals and having one polarity reversed on either input cable** — (the right and left signal will effectively cancel each other at the subwoofer input.)

There are **two** relays which should close in sequence when the power switch is on **and the unit is receiving a signal**: Relay 101 - power supply; Relay 102 - speaker output. Two audible "clicks" should be heard; one immediately, the other 2 - 5 seconds after turning on the unit. **When troubleshooting: to activate the sensing circuit and properly test the unit, a signal (e.g. 100mV @50 Hz or a music signal) MUST be connected to the low level input. Failure to do so will result in false readings and frustration. Also the main molex connector and ribbon connecting both boards must remain intact for the same reason.** For main board power-up and relay activation without using signal or input board connection for troubleshooting, see section "FIRST RELAY (RLA 101) IS CLOSING, SECOND RELAY (RLA 102) IS NOT CLOSING" - #2, A & B.

FOR ALL PROBLEMS (EXCEPT BLOWING FUSES):

After amplifier removal from cabinet, pull back the white plastic cover to examine unit. It is usually not necessary to completely detach the cover from the amp assembly.

CHECK TO SEE THAT RELAYS ARE CLOSING NORMALLY AND CONTACTS ARE CLOSING:

(Power LED goes on, two audible "clicks" are heard 2 - 5 seconds after power is turned on):

Connect AC signal (with Y-cable) into low level inputs; 100 mV @ 100Hz or music signal. Turn UUT on.

To confirm Relay 101 (power supply) is functional, check voltage across relay coil (see drawing for location) for 19 - 21 VDC. Then check voltages across R105/R106. RS-10: 12 - 13 VDC; RS-12: 22 - 23 VDC. If voltage is considerably higher there is a short causing the entire power supply voltage to appear across R105/R106. Or if voltage is absent see "NEITHER RELAY IS CLOSING" next page.

To confirm Relay 102 (speaker output) is functional, check voltage across relay coil (see drawing for location) for 19 - 21 VDC. Attach 2 - 4 Ω power resistor to output cable of UUT. Check voltage across R147 for less than 50 mVAC. Little or no voltage across R147 **assures** R102 contacts are closing normally. (See drawing for location of R147.) If voltage is absent from relay coil see "FIRST RELAY (RLA 101) IS CLOSING, SECOND RELAY (RLA 102) IS NOT CLOSING" on next page.

I NEITHER RELAY IS CLOSING:

1. Check to see if LED is on, if not check to see if line fuse is blown. Replace if necessary — if fuse blows again see section IV: "UNIT BLOWS FUSES". If line fuse is not blown and LED is not on, check all AC connections at terminals and condition of line thermistor (should have measured DCR of 9 - 12 Ω). Check for 21 VAC at the amp board (blue & black wires). If voltage is absent replace toroidal transformer.

2. If LED is on and 21 VAC is present at the amp board (blue & black wires), and if 19 - 21 VDC is present at Relay 101 coil but no "click" is heard and rest of unit does not energize, replace Relay 101.

3. **If no DC voltage is present at Relay 101 coil,** check DC voltage across C103/C105 for +/- 15 - 17VDC. If voltages are very low unplug ribbon connector to filter board and re-check. If voltage rises to correct value than one of two conditions exist:
   A. C102, C104 are shorted or defective (most likely). See Service Bulletin #INF9702 on Page 13.
   B. There is a short on the filter board, IC201 or IC202 (LF 347N). Replace and re-test. **Note: IC sockets are recommended for the new IC's.**

If after IC replacement only one correct voltage is present check/replace appropriate Zener diode (D108 for C103, D111 for C105).

4. If DC voltages across C103/C105 are correct and Relay 101 is not closing:
   a) Unplug ribbon cable attached to input board.
   b) Insert a 15kW ¼w resistor into leads 5 & 8 of the unplugged female connector end. (See drawing)
   c) Turn on UUT. If Relay 101 still doesn't close, check condition of D130 with "diode check" function on DMM; if shorted, replace. If O.K. replace Q116.

5. If DC voltage is present at Relay 101 coil and if it still doesn't closes, replace Relay 101.

II FIRST RELAY (RLA 101) IS CLOSING, SECOND RELAY (RLA 102) IS NOT CLOSING

1. Check for 21 volts across Relay 102 coil . If present, replace Relay 102.

2. **If no voltage is present:** Check DC voltage across R105/R106. If voltage is substantially higher than (12-13 volts for RS10; 22-23 volts for RS12) there is a short on the 16v circuit.
   To troubleshoot:
   a. Unplug ribbon cable attached to input board.
   b. Insert a 15kW ¼w resistor into leads 5 & 8 of the unplugged female connector end. (See drawing)
   c. Turn on UUT, second relay may now turn on and R105/R106 voltages may be correct. If so, replace IC 201 on input board.
   d. If voltage is still high check 16v zener diode (D116 for R106), (D115 for R105) for voltage abnormalities. Forward bias of zener can be checked with "diode check" function on DMM in the circuit or by checking for +/- 16 volts across zeners when energized. Replace if necessary.

3. **If no voltage is present at Relay 102 and voltages are correct across R105/R106:**

   Check for +15-16 volts on pin 8 of IC 101 (LF 347N) on main amp board.
   Check for +1.7 to 1.9 volts on pin 9.
   Check for +8 volts on pin 10.
   If any of the above voltages are abnormal:
   Check DC voltage across R116 (33KW). (See drawing for location) Less than 50mV should be present. If higher, relay will not energize. DC is coming through the amplifier section. Check and replace output devices as necessary.

   If there is negligible voltage across R116, **(normal condition)** check junctions of Q102, Q103 with "diode check" function on DMM in the circuit. Replace if defective. If O.K., replace IC 101 (LF 347N) on main amp board.

If there is negligible voltage across R116, **(normal condition)** check junctions of Q102, Q103 with "diode check" function on DMM in the circuit. Replace if defective. If O.K., replace IC 101 (LF 347N) on main amp board.

If all voltages are correct on IC 101:

Check junction of D118 ("diode check" function on DMM) in the circuit. Replace if defective. If O.K., replace Q101.

III BOTH RELAYS CLOSING NORMALLY, BUT NO OUTPUT OR DISTORTION EXISTS

1. NO OUTPUT

   a. Re-read or follow the instructions mentioned on the first page concerning other issues which could result in no output: (bad woofer, mis-wired high level input, Relay 102 contacts not closing even though a "click" is heard).

   b. If those items check out, follow the signal path with schematic and DMM (oscilloscope is usually not required), checking for these approximate voltages at the points indicated below. Use main filter caps, (common point), or black power supply wire for ground:

TEST CONDITIONS:

Signal: 100mV @50 Hz connected to the low level input with a Y-cable (both right & left inputs). Both control pots (level and frequency) full clockwise.
Turn UUT on. **No speaker load should be connected at this time.**

	RS-10	**RS-12**
IC 202 pin 10:	22-23 mV	22-23 mV
IC 202 pin 8:	1.5 volts	2.1 - 2.3 volts
IC 202 pin 1:	1.1 volts	1.6 - 1.8 volts

* Note: For loss of signal between pins 8 & 1 desolder and lift 3 pin end from LDR101 and re-test.(see note below)

IC 202 pin 7:	.9 - 1 volts	1.6 - 1.8 volts
IC 202 pin 14:	.9 - 1 volts	1.6 - 1.8 volts

Note: For loss of signal between pins 7 & 14 check condition of C206,C207.

IC 101 pin 7:	.7 - .8 volt	.5 volts
Output at speaker:	11.7 - 12.7 volts	12.5 - 14.0 volts

* Note: For a loss of signal between pins 8 & 1 and if the removal of LDR101 restores full AC signal voltage: first check DC voltage (2 pin connection) at LDR source pins when energized. Voltage should be less than .5 VDC. If voltage is higher, replace IC101. If voltage is correct, replace LDR101.

Another procedure for isolating the problem to one board or the other is as follows:

1. Unplug ribbon cable attached to input board.
2. Insert a 15K W resistor into leads 5 & 8 of the unplugged female connector end. (See drawing)
3. Follow "TEST CONDITIONS" above except that signal will be **500 mv** (50 Hz); the signal will be attached at pin #2 of the ribbon cable (use wire or resistor lead of proper diameter to insert into connector. A convenient ground is the common lead of the main filter caps).
4. Turn UUT on. Output at speaker cable should be approx. 7.0 volts. If output is correct (can be viewed on scope if desired for distortion problems), problem is on smaller filter board.

IV UNIT BLOWS FUSES

Two conditions are possible: UUT blows fuses **instantly** when power switch is thrown, or UUT blows fuses when power supply relay RLA101 is energized (due to an input signal).

1. UNIT BLOWS FUSES INSTANTLY WITH NO INPUT SIGNAL

   Desolder, remove at least two power supply wires from main amp board (blue & black). Replace fuse, power up unit again. If fuse blows, replace shorted toroidal power transformer.

2. UNIT BLOWS FUSES IMMEDIATELY AFTER FIRST RELAY IS ENERGIZED

   a. Problem is usually shorted output transistors or diode semi-bridge on main amp board. These consist of:

2SC 3856 / 2SA 1492	TO-218 package
BD 911/912	TO-220 package
FEN 16 / FEP 16	TO-220 package

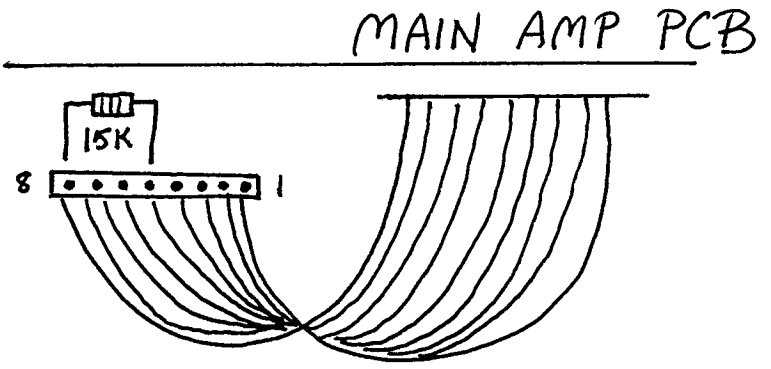
Note: Also check condition of D102,103. These are in parallel with the output devices and must be isolated.

All junctions can be tested in the circuit with a "diode check" function on a DMM. If a short is found; however, remember some devices are in parallel and will have to be removed to confirm the short.

   b. Occasionally the output transistors seem O.K. or after a replacements high currents will continue to blow fuses. The problem is probably with one of the driver or pre-driver transistors Q104,105,106,107,108,109.

RECOMMENDED FINAL INSPECTION

Check for a burnt or deformed thermistor (attached to power cord receptacle & switch). Replace if defective.
Make sure the toroidal transformer is tight and will not move easily by hand.
Make sure the phillips screws holding the main amp board (on the front of the faceplate) are tight. **(Loose screws mean poor transistor heatsinking, possible premature failure).**
Make sure the correct line fuse is in place; RS-10: 3A, RS-12: 4A — (all ratings at 120v).
Make sure the red,red/black output wires are still maintaining an airtight seal as they thread through the white plastic amp cover.



Infinity

Service Bulletin

Service bulletin #INF9702 - Oct. 1997

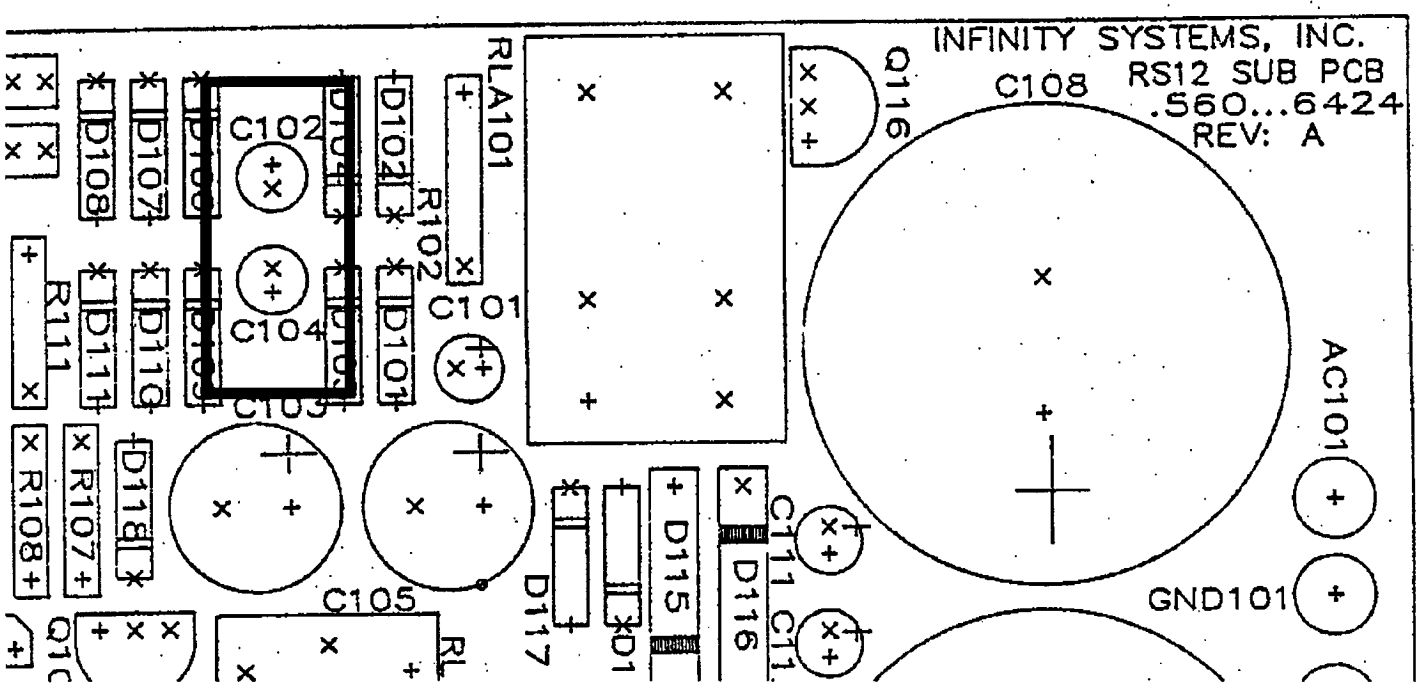
To: All Infinity Service Centers

Models: RS-10/RS-12 Subwoofer

Subject: No output/erratic cycling on & off

In the event you receive a RS-10 or RS-12 Subwoofer with the complaint "unit has stopped playing even though the red LED is still on" or "unit turns on & off erratically", perform the necessary steps listed below:

1) Remove the (12) #8 x 1" screws holding the amp assembly in the cabinet.
2) Remove amp assembly and unplug the red output wires attached to the woofer.
3) Pull back the white plastic amp cover to expose the circuit boards.
4) Locate C102 & C104. (15 uf, 16v or 10uf, 25v).
5) Replace capacitors with Infinity part# 200-8119 (10uf, 50v, NPE) Do not replace parts with an identical voltage rating as stock units.
6) Replace amp assembly and test unit.



Model	Serial number	Action	Correction
RS-10/RS-12	All serial numbers affected	C102 and/or C104 are shorted	Replace C102/104 with 10uf, 50v replacement capacitors

Infinity® SEMICONDUCTORS

PART#	DESCRIPTION
304-6578	SCHOTTKY DIODE 1N5822
306-0069	1N4007 DIODE
306-0798	1N4004 DIODE
306-0805	1N4148 DIODE
306-3891	2N4403 TRANSISTOR
306-3898	2N4401 TRANSISTOR
306-4931	1N4001 DIODE
306-8042	FEP16DT DUAL DIODE
306-8043	FEN16DT DUAL DIODE
307-8039	IN5246B 16V ZENER DIODE
307-8040	IN4745A 16V ZENER DIODE
307-8041	IN5366 39V ZENER DIODE
307-8126	IN5353B 16V 5W ZENER DIODE
325-0762	RC4558 IC
325-3932	LM 833N IC
325-4258	LF347N IC
325-6548	LF353N IC
326-3937	UPC 1298V IC
328-5957	STK 4050 IC
330-3936	TL494CN IC
339-6726	LDR OPTOISOLATOR VACTEC 21L960
326-6263	DS0026CN IC
347-3940	MJE 172 TRANSISTOR
347-3947	MJE 182 TRANSISTOR
347-3926	TIP 36B TRANSISTOR
347-3933	TIP 35B TRANSISTOR
347-3982	TIP 36C TRANSISTOR
347-3989	TIP 35C TRANSISTOR
347-3968	TIP 31C TRANSISTOR
347-3975	TIP 32C TRANSISTOR
347-8024	BD911 TRANSISTOR
347-8025	BD912 TRANSISTOR
347-8026	2SA1492 TRANSISTOR
347-8027	2SC3856 TRANSISTOR
347-8028	BUZ71A TRANSISTOR
347-8029	2SD1763A TRANSISTOR
347-8030	2SB1186A TRANSISTOR
347-8031	VPO300 TRANSISTOR
347-8032	VN40AD TRANSISTOR
347-8033	MPSA12 TRANSISTOR
347-8034	LM 324 IC
347-8035	LM 837 IC
348-3930	MTP 3055 TRANSISTOR
348-4020	IRFZ44 TRANSISTOR
348-4276	VN10KM TRANSISTOR
348-5676	IRF9530 TRANSISTOR
348-5698	IRF530 TRANSISTOR
348-7142	IRFZ40 TRANSISTOR
348-7245	T2500 TRIAC

NOTE: THESE PARTS ARE USED IN A VARIETY OF INFINITY ELECTRONIC PRODUCTS

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RS SUBWOOFER 10"
AMPLIFIER CIRCUIT PARTS LIST
.036...6621
ECO# 1327
P/L REVISION: B - DEVIATION 3
SCHEMATIC REVISION: B - DEVIATION 3
October 04, 1994
SUPERSEDES ALL PREVIOUS PARTS LIST
*** NOT TO BE USED AS COMPLETE AMPLIFIER ASSEMBLY BOM ***

PCB-1 (.021...6624A) AMPLIFIER BOARD ASSY

RESISTORS

¼ WATT, 5% TOL, CARBON FILM

R116	33K Ω
R114,R115	2.2K Ω
R107	15K Ω
R113	10K Ω
R103,R147	5.1K Ω
R102	JUMPER Ω
R130,R134	270 Ω
R137,R138,R139,R110	39 Ω
R135	4.3K Ω
R136	6.2K Ω
R123	11K Ω
R121	150 Ω
R124	4.7K Ω
R126	82K Ω
R111,R122	100K Ω
R112	120K Ω
R109	4.7M Ω
R108	12K Ω
R125	NO LONGER USED

¼ WATT, 1% TOL, METAL FILM

R128,R132,R151,R152	10.0K Ω
R118,R153,R154,R156	51.1K Ω
R144,R155	20.0K Ω
R119,R129	1.00K Ω
R117	1.00M Ω
R145	3.40K Ω
R149	2.21K Ω
R150	121K Ω
R120	22.1K Ω
R133	562 Ω

½ WATT, 5% TOL, CARBON FILM

R101	1K Ω
R131	5.6K Ω
R127	UNUSED Ω

1 WATT, 5% TOL, CARBON FILM

R146	2.7 Ω

2 WATT, 5% TOL, CARBON FILM

R140,R141,R142,R143	0.1 Ω

4 WATT, 5% TOL, CARBON FILM

R105,R106	300 Ω

5 WATT, 5% TOL, WIRE WOUND, RADIAL

R148	0.1 Ω

CAPACITORS

CERAMIC DISK - 10% TOL, 50V

C125,C126	100pF
C119	220pF
C109,C110,C131	100nF

CERAMIC DISK - 10% TOL, 100V

C106	100nF

ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C113	3.3μF, 10V
C114	1.0μF, 16V
C103,C105	2,200μF, 16V
C111,C112	47μF, 16V
C101	10μF, 25V
C107,C108	10,000μF, 35V

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C124	22μF, 10V
C118,C122	1μF, 16V
C115,C121	47μF, 16V
C102,C104	15.0μF, 16V

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POLYESTER FILM, 5% TOL, 50V

C129	47nF
C117	10nF
C127,C130	100nF
C116	470nF
C132	68nF
C128	220nF
C123	1nF
C120	680nF

INTEGRATED CIRCUITS

IC101	(MOTOROLA) LF347

DIODES

SILICON

D103,D117,D118,D119,D122,D123,D124,D125, D126,D127,D130	1N4148
D101,D102,D104,D105,D106,D107,D109,D110,D120,D121	1N4001

RECTIFIER

D113	FEP16DT
D114	FEN16DT

ZENER

D115,D116	1N5353B
D108,D111	1N4745
D131	1N5237B

TRANSISTORS

Q102,Q103	ROHM P/N: 2SC2389
Q101,Q116	ROHM P/N: 2SC2061
Q104,Q105,Q106	ROHM P/N: 2SA1038
Q107	ROHM P/N: 2SB1186A
Q108	NATIONAL P/N: MPSA12
Q109	ROHM P/N: 2SD1763A
Q110	SGS P/N: BD911
Q111	SGS P/N: BD912
Q112,Q114	MOTOROLA P/N: TIP35C
Q113,Q115	MOTOROLA P/N: TIP36C

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MISCELLANEOUS

TH101 . . . . . NTC THERMISTOR
US SENSOR 104JG1K 100K @ 25°C
RLA102 . . . . . RELAY AROMAT, JS1aE-24V, INF. P/N 510-6719
RLA101 . . . . RELAY AROMAT, JC2aJ-DC24V, INF. P/N 510-6718
LDR101 . . . . . OPTOISOLATOR, EG&G VACTEC P/N 21L960
(HARMAN P/N HM13-0499-01 *PROPRIETARY* - ISI P/N: 339-6726)
TST101 . . . . . 8 PIN TEST HEADER, MOLEX P/N 22-23-2081
QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6622
RBN101 . . . . . MOLEX RIBBON CABLE ASSY, INF. P/N 639-6476
(8 PIN CRIMP TERMINAL HOUSING, MOLEX P/N 14-60-1083)
(8 CONDUCTOR RIBBON INTER-BRD CONNECTION, MOLEX P/N 8997-08)

PCB-2 (.021...6624B) FILTER BOARD ASSY.

RESISTORS

¼ WATT, 1% TOL, METAL FILM

R202,R203,R208,R209	100K Ω
R218	392K Ω
R204,R205,R210,R211	4.99K Ω
R206,R212,R223,R224	49.9K Ω
R217	22.6K Ω
R219,R221,R222	4.75K Ω
R213	1.00K Ω
R215	20.0K Ω
R216	57.6K Ω
R214	51.1K Ω
R220,R225	UNUSED

¼ WATT, 5% TOL, CARBON FILM

R226	1.2K Ω
R231	1K Ω
R228	22K Ω
R227	10M Ω
R229	100 Ω
R230	3.3M Ω
R232	15K Ω

½ WATT, 5% TOL, CARBON FILM

R201,R207	1K Ω

INTEGRATED CIRCUITS

IC201,IC202 . . . . . (MOTOROLA) QUAD OP-AMP LF347

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DIODES

SILICON

D201,D202,D203 . . . . . 1N4148

TRANSISTORS

Q201 . . . . . ROHM 2SC2389

CAPACITORS

CERAMIC DISK - 10% TOL, 50V

C201,C211 . . . . . 220pF
C205,C214 . . . . . 100nF

POLYESTER FILM, 5% TOL, 50V

C207 . . . . . 560nF
C208 . . . . . 10nF
C209 . . . . . 33nF
C206 . . . . . 220nF
C202,C203,C204 . . . . . 50nF

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C212 . . . . . 1.0μF, 16V
C215 . . . . . 4.7μF, 16V
C210 . . . . . JUMPER

ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C213 . . . . . 100μF, 6.3V

POTENTIOMETERS, PANEL MOUNT

VR202 . . . . . 4 GANG, 20K Ω, INF.# 146...5955
NOBLE P/N V12L5(U2)(7x7.5)G(4R)(PH2D),N15KC-B20KΩX4

VR201 . . . . . 1GANG, 10K Ω, INF.# 146...7111
VB12L(7x7.5)(PH2D)N15KC-15A10K(S-CUT)

MISCELLANEOUS

J205 . . . . . DUAL PCB MOUNT RCA, RED/WHT INSERTS
AD ELECTRONICS, AD P/N ARL-1416-2-G-R
TST201 . . . . . 4 PIN TEST HEADER, MOLEX P/N 22-23-2041
QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6623
RBN201 . . 8 PIN FRICTION LOCK HEADER, MOLEX P/N 22-23-2081
RBN202 . . . . . MOLEX RIBBON CABLE ASSY, INF. 639-6632
(4 PIN CRIMP TERMINAL HOUSING, MOLEX P/N 14-60-1043)
(4 CONDUCTOR RIBBON INTER-BRD CONNECTOR, MOLEX P/N 8997-04)
TH1 . . . . NTC THERMISTOR, 10Ω 25°C, US SENSOR P/N SS10004
T1 . . . . . TOROID, TRANSFORMER, INF. 415...5155

MISCELLANEOUS NON-BOARD-MOUNTED COMPONENTS

LED101 . . . LED,STANLEY #BR3932S OR EQUIV, INF. 311...6039
QTY 1 . . . . POWER CRD, TUMBLER #3271J66, INF. 615...5141
QTY 1 . . . . . CRAYO-THERM INSULATOR, INF. 731...6664
QTY 1 . . . . . TRANSISTOR MNTG CARDBOARD, INF. 950...6652
QTY 1 . FUSE,250V-3A,BUSS ELEC P/N GMC-3A, INF. 870...5150
QTY 1 FUSE,250V-1.5A,BUSS ELEC P/N GMC-1.5A, INF. 870...5354
QTY 1 . . . . . *** AC CONNECTOR, SCHURTER #4303.1091
QTY 1 . . ***INTERCHANGEABLE FSDRWR, SCHURTER #4303.2114.01
***BOTH PIECES COMBINE INTO-INFINITY. 539...5349
QTY 2 . . . . . KNOB, BLK PLASTC,INF. 710...1979
QTY 2 . . . . . 4 TERMINAL BARRIER STRIP
MAGNUM #481304-NL,INF. 545...5994
QTY 1 . . . . . CHASSIS PLATE, INF. .707...6636
QTY 1 . . . . . TRANSISTOR MNTG PLATE, INF. 707...6651
QTY 1 . . . . . TRANSISTOR (NEOPRENE) PAD, INF. 965...5987
QTY 1 . . . . . THERMISTOR (NEOPRENE) PAD, INF. 965...6448
QTY 8 . . . TEFLON TUBING,ICORALLY P/N STT-16,NATURAL,0.25"
QTY 9 . . TEFLON TUBING,ICORALLY P/N STT-16,NATURAL,0.3125"
QTY 2 . . . TEFLON TUBING,ICORALLY P/N STT-20,NATURAL,0.75"
QTY 1 . . . TEFLON TUBING,ICORALLY P/N STT-24,NATURAL,0.50"
QTY 1 . . . TEFLON TUBING,ICORALLY P/N STT-24,NATURAL,1.00"
QTY 2 . . . . . HEAT SHRINK TUBING,BLK 3/32" DIA x 1"
QTY 1 . . . . . TRANSFORMER MNTG PLATE, INF. 707...6671
QTY 1 . . . . . AMP ENCLOSURE, INF. 760...6653
QTY 1 . TRANSFORMER RUBBER MOUNT WSHR, INF. P/N 822...6672
QTY 2 . SHORTING STRAPS,MAGNUM # J301, INF. P/N 539...6829

SWITCH

SW1 . . DPST SWITCHCRAFT P/N 360B5NN, INF. P/N 507...5967

SCREWS/NUTS/WASHERS

QTY 8 . . . . . 4-40 x 1/2 PPH, SPCL BLK, INF. P/N 800...5971
(TRANSISTOR BRACKET/IEC CONN/GROUND SCREWS)
QTY 4 . . . . . 8-32 x 1 PPH,SPCL BLK, INF. P/N 800...1715
(TRANSISTOR BRACKET/HEATSINK)
QTY 1 . . . . 1/4-20 x 3 PPH, SPCL BLK, INF. P/N 800...5156
QTY 4 . . . 10-32 x 3/4 PPH, SPCL BLK, INF. P/N 800...5356
(BARRIER STRIP SCREWS)
QTY 1 . #4 x 1/2 PPH,SPCL BLK,INF.P/N 801...5952 (RCA JACK)
QTY 1 . . . . . 1/4-20 HEXNUT, BLK, INF. P/N 810...0929
QTY 1 . . . 4-40 KEPNUT, ZINC, INF. P/N 814...5978 (GROUND)
QTY 1 . . . LOCKWASHER, SPLIT, 1/4 BLK, INF. P/N 827...0943
QTY 2 . . . . . 4" TYWRAP, BLK, INF. P/N 861...1499

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CONNECTORS

QTY 1 . . . . MOLEX CONNECTOR ASSY,INF.# 639...6666-PART A
(MOLEX P/N 03-09-2022 - CONNECTOR PLUG - QTY. 1)
(MOLEX P/N 02-09-2103 - MALE TERMINAL - QTY. 2)
(.205" FAST-ON CRIMP TERMINALS, .020" THICK - QTY. 1)
(.250" FAST-ON CRIMP TERMINALS, .032" THICK - QTY. 1)
11.8", 14 AWG RED,SPK TRMNL WIRE (MOLEX/SPKR)
11.8", 14 AWG RED/BLK,SPK TRMNL WIRE (MOLEX/SPKR)

QTY 1 . . . . MOLEX CONNECTOR ASSY,INF.# 639...6673-PART B
(MOLEX P/N 03-09-1022 - CONNECTOR RECEPTACLE - QTY.1)
(MOLEX P/N 02-09-1104 - FEMALE TERMINAL - QTY. 2)
11", 14 AWG RED,SPK TRMNL WIRE(PCB1 - SPKR+)
11", 14 AWG RED/BLK,SPK TRMNL WIRE(PCB1 - SPKR-)
QTY 3 . . . . .187" FAST-ON TERMINAL - FEMALE, .032" THICK
QTY 1 . . . . . .125" ID, RING TONGUE TERMINAL
QTY 2 . . . . . .250" FAST-ON TERMINAL-FEMALE, .032" THICK

WIRES

5.0" . . . . . 16 AWG RED,IEC WIRE(POSITIVE)
5.0" . . . . . 16 AWG WHITE,IEC WIRE (NEUTRAL)
2.5" . . . . . 16 AWG GRN,IEC WIRE (GROUND)
8.1" . . . . . 18 AWG RED,LED WIRE(PCB1 - LED101 ANODE)
8.1" . . . . . 18 AWG BLK,LED WIRE(PCB1 - LED101 CATHODE)
4.5" . . . . 20 AWG RED,RIGHT POS HI LEVEL INPUT WIRE(PCB3-J308)
4.5" . . . 20 AWG BLACK,RIGHT NEG HI LEVEL INPUT WIRE(PCB3-J307)
4.5" . . . 20 AWG ORANGE,LEFT POS HI LEVEL INPUT WIRE(PCB3-J306)
4.5" . . . . 20 AWG BLUE,LEFT NEG HI LEVEL INPUT WIRE(PCB3-J305)
4.5" . . 20 AWG BROWN,RIGHT POS HI LEVEL OUTPUT WIRE(PCB3-J304)
4.5" . . 20 AWG WHITE,RIGHT NEG HI LEVEL OUTPUT WIRE(PCB3-J303)
4.5" . . 20 AWG YELLOW,LEFT POS HI LEVEL OUTPUT WIRE(PCB3-J302)
4.5" . . . 20 AWG GREEN,LEFT NEG HI LEVEL OUTPUT WIRE(PCB3-J301)

OCT 2 6 1994

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PCB-3 (.021...6625) PASSIVE CROSSOVER PCB ASSY, RS 10 & 12

RESISTORS

15 WATT, 10% TOL, WIRE WOUND, AXIAL LEAD

R301,R302 . . . . . 6 Ω - INF. # 140-XXXX

CAPACITORS

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 10% TOL, 20% DF

C301,C302 . . . . . 500μF, 100V - INF. # 200-2356

INDUCTORS

IRON SLUG

L301,L302 . . . . . 1.5 mH - INF. # 443-2888

MISCELLANEOUS

QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6620

RBN301 . . 4 PIN FRICTION LOCK HEADER, MOLEX P/N 22-23-2041

OCT 2 6 1994

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RS SUBWOOFER 12"
AMPLIFIER CIRCUIT PARTS LIST
.036...6421
ECO# 1395

MAR 0 7 1996

P/L REVISION: B - **DEVIATION 5**

SCHEMATIC REVISION: B - **DEVIATION 5**

March 5, 1996

SUPERSEDES ALL PREVIOUS PARTS LIST

*** NOT TO BE USED AS COMPLETE AMPLIFIER ASSEMBLY BOM ***

PCB-1 (.021...6265A) AMPLIFIER BOARD ASSY.

RESISTORS

¼ WATT, 5% TOL, CARBON FILM

R116	33K Ω
R114,R115	2.2K Ω
R107	15K Ω
R113	10K Ω
R103,R147	5.1K Ω
R130,R134	270 Ω
R137,R138,R139,R110	39 Ω
R135	4.3K Ω
R136	6.2K Ω
R124	4.7K Ω
R121	100 Ω
R122	47K Ω
R126	82K Ω
R111	100K Ω
R112	91K Ω
R109	10M Ω
R108,R123	12K Ω
R125	NO LONGER USED

¼ WATT, 1% TOL, METAL FILM

R128,R132,R151,R152	10.0K Ω
R118,R153,R154,R156	51.1K Ω
R144,R155	20.0K Ω
R119,R129	1.00K Ω
R145	3.40K Ω
R150	475K Ω
R117	1.00M Ω
R120	22.1K Ω
R133	562 Ω
R149	1.82K Ω

½ WATT, 5% TOL, CARBON FILM

R101	1K Ω
R131	5.6K Ω
R102	180 Ω
R127	UNUSED Ω

1 WATT, 5% TOL, CARBON FILM

R146	2.7 Ω

2 WATT, 5% TOL, CARBON FILM

R140,R141,R142,R143	0.1 Ω

4 WATT, 5% TOL, CARBON FILM

R105,R106	430 Ω

10 WATT, 5% TOL, WIRE WOUND, RADIAL

R148	0.1 Ω

CAPACITORS

CERAMIC DISK - 10% TOL, 50V

C125,C126	100pF
C119	220pF
C109,C110,C131	100nF

CERAMIC DISK - 10% TOL, 100V

C106	100nF

ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C113	3.3µF, 10V
C111,C112	47µF, 16V
C114	1.0µF, 16V
C103,C105	2,200µF, 25V
C101	10µF, 25V
C107,C108	10,000µF, 50V

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C124	22µF, 10V
C118,C122	1µF, 16V
C115,C121	47µF, 16V
C102,C104	10.0µF, 35V

POLYESTER FILM, 5% TOL, 50V

C129	47nF
C117	22nF
C127,C130	100nF
C116	470nF
C128	560nF
C123	1nF
C120	680nF
C132	150nF

INTEGRATED CIRCUITS

IC101	(MOTOROLA) LF347

DIODES

SILICON

D103,D117,D118,D119,D122,D123,D124,D125,
D126,D127,D130 . . . . . 1N4148
D101,D102,D104,D105,D106,D107,D109,D110,D120,D121 . 1N4001

RECTIFIER

D113 . . . . . FEP16DT
D114 . . . . . FEN16DT

ZENER

D115,D116 . . . . . 1N5353B
D108,D111 . . . . . 1N4745
D131 . . . . . 1N5237B

TRANSISTORS

Q102,Q103 . . . . . ROHM P/N: 2SC2389
Q101,Q116 . . . . . ROHM P/N: 2SC2061
Q104,Q105,Q106 . . . . . ROHM P/N: 2SA1038
Q107 . . . . . ROHM P/N: 2SB1186A
Q108 . . . . . NATIONAL P/N: MPSA12
Q109 . . . . . ROHM P/N: 2SD1763A
Q110 . . . . . SGS P/N: BD911
Q111 . . . . . SGS P/N: BD912
Q112,Q114 . . . . . SANKEN P/N: 2SC3856
Q113,Q115 . . . . . SANKEN P/N: 2SA1492

MISCELLANEOUS

TH101 . . . . . NTC THERMISTOR
US SENSOR 104JG1K 100K @ 25°C
RLA102 . . . . . RELAY AROMAT, JS1aE-24V,INF. P/N 510-6719
RLA101 . . . . RELAY AROMAT, JC2aJ-DC24V,INF. P/N 510-6718
LDR101 . . . . . OPTOISOLATOR, EG&G VACTEC P/N 21L960
(HARMAN P/N HM13-0499-01 *PROPRIETARY* - ISI P/N: 339-6726)
TST101 . . . . . 8 PIN TEST HEADER, MOLEX P/N 22-23-2081
QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6424
RBN101 . . . . . MOLEX RIBBON CABLE ASSY, INF. P/N 639-6476
(8 PIN CRIMP TERMINAL HOUSING,MOLEX P/N 14-60-1083)
(8 CONDUCTOR RIBBON INTER-BRD CONNECTION, MOLEX P/N 8997-08)

PCB-2 (.021...6265B) FILTER BOARD ASSY.

RESISTORS

¼ WATT, 1% TOL, METAL FILM

R202,R203,R208,R209	100K Ω
R204,R205,R210,R211	4.99K Ω
R206,R212,R223,R224	49.9K Ω
R217	5.90K Ω
R219,R221,R222	4.75K Ω
R213	1.00K Ω
R216	15.0K Ω
R215	20.0K Ω
R218	90.9K Ω
R214	37.4K Ω
R220,R225	UNUSED

¼ WATT, 5% TOL, CARBON FILM

R226	820 Ω
R231	1K Ω
R228	22K Ω
R227,R230	10M Ω
R229	100 Ω
R232	15K Ω

½ WATT, 5% TOL, CARBON FILM

R201,R207	1K Ω

INTEGRATED CIRCUITS

IC201,IC202	(MOTOROLA) QUAD OP-AMP LF347

DIODES

SILICON

D201,D202,D203	1N4148

TRANSISTORS

Q201	ROHM 2SC2389

CAPACITORS

CERAMIC DISK - 10% TOL, 50V

C201,C211	220pF
C205,C214	100nF

POLYESTER FILM, 5% TOL, 50V

C207	560nF
C208	10nF
C209	33nF
C202,C203,C204,C206	220nF

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C212	1.0µF, 16V
C215	4.7µF, 16V
C210	JUMPER

ELECTROLYTIC - RADIAL LEAD, 20% TOL, 20% DF

C213 . . . . . 100µF, 6.3V

POTENTIOMETERS, PANEL MOUNT

VR202 . . . . . 4 GANG, 20K Ω,INF.# 146...5955
NOBLE P/N V12L5(U2) (7x7.5)G(4R)(PH2D),N15KC-B20KΩX4

VR201 . . . . . 1GANG, 10K Ω,INF.# 146...7111
VB12L(7x7.5)(PH2D)N15KC-15A10K(S-CUT)

MISCELLANEOUS

J205 . . . . . DUAL PCB MOUNT RCA,RED/WHT INSERTS
AD ELECTRONICS, AD P/N ARL-1416-2-G-R
TST201 . . . . . 4 PIN TEST HEADER, MOLEX P/N 22-23-2041
QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6425
RBN201 . . 8 PIN FRICTION LOCK HEADER, MOLEX P/N 22-23-2081
RBN202 . . . . . MOLEX RIBBON CABLE ASSY, INF. 639-6632
(4 PIN CRIMP TERMINAL HOUSING, MOLEX P/N 14-60-1043)
(4 CONDUCTOR RIBBON INTER-BRD CONNECTOR, MOLEX P/N 8997-04)
TH1 . . . . NTC THERMISTOR, 10Ω 25°C,US SENSOR P/N SS10004
T1 . . . . . TOROID,TRANSFORMER, INF. 415...5643

MISCELLANEOUS NON-BOARD-MOUNTED COMPONENTS

LED101 . . . LED,STANLEY #BR3932S OR EQUIV, INF. 311...6039
QTY 1 . . . . POWER CRD, TUMBLER #3271J66, INF. 615...5141
QTY 1 . . . . . CRAYO-THERM INSULATOR, INF. 731...6664
QTY 1 . . . . . TRANSISTOR MNTG CARDBOARD, INF. 950...6652
QTY 1 . FUSE,125V-4A,BUSS ELEC P/N GMC-4A, INF. 870...6665
QTY 1 . FUSE,250V-2A,BUSS ELEC P/N GMC-2A, INF. 870...6670
QTY 1 . . . . . *** AC CONNECTOR, SCHURTER #4303.1091
QTY 1 . . ***INTERCHANGEABLE FSDRWR, SCHURTER #4303.2114.01
***BOTH PIECES COMBINE INTO-INFINITY. 539...5349
QTY 2 . . . . . KNOB, BLK PLASTC,INF. 710...1979
QTY 2 . . . . . 4 TERMINAL BARRIER STRIP
MAGNUM #481304-NL,INF. 545...5994
QTY 1 . . . . . CHASSIS PLATE, INF. .707...6642
QTY 1 . HEAT SINK,EXTRSN,IERC # E350, 2-1/2", INF. 709-5626
QTY 1 . . . . . TRANSISTOR MNTG PLATE, INF. 707...6651
QTY 1 . . . . . TRANSISTOR (NEOPRENE) PAD, INF. 965...5987
QTY 1 . . . . . THERMISTOR (NEOPRENE) PAD, INF. 965...6448
QTY 8 . . . TEFLON TUBING,ICORALLY P/N STT-16,NATURAL,0.25"
QTY 9 . . TEFLON TUBING,ICORALLY P/N STT-16,NATURAL,0.3125"
QTY 2 . . . TEFLON TUBING,ICORALLY P/N STT-20,NATURAL,0.75"
QTY 1 . . . TEFLON TUBING,ICORALLY P/N STT-24,NATURAL,0.50"
QTY 1 . . . TEFLON TUBING,ICORALLY P/N STT-24,NATURAL,1.00"
QTY 2 . . . . . HEAT SHRINK TUBING,BLK 3/32" DIA x 1"
QTY 1 . . . . . TRANSFORMER MNTG PLATE, INF. 707...6671
QTY 1 . TRANSFORMER RUBBER MOUNT WSHR , INF. P/N 822...6672
QTY 1 . . . . . AMP ENCLOSURE, INF. 760...6653
QTY 2 . . . SHORTING STRAPS,MAGNUM # J301, INF. 539...6829

SWITCH

SW1 . . DPST SWITCHCRAFT P/N 360B5NN, INF. P/N 507...5967

SCREWS/NUTS/WASHERS

QTY 8 . . . . 4-40 x 1/2 PPH, SPCL BLK, INF. P/N 800...5971
(TRANSISTOR BRACKET/IEC CONN/GROUND SCREWS)
QTY 4 . . . . . 8-32 x 1 PPH,SPCL BLK, INF. P/N 800...1715
(TRANSISTOR BRACKET/HEATSINK)
QTY 1 . . . . 1/4-20 x 3 PPH, SPCL BLK, INF. P/N 800...5156
QTY 4 . . . 10-32 x 3/4 PPH, SPCL BLK, INF. P/N 800...5356
(BARRIER STRIP SCREWS)
QTY 1 . #4 X 1/2 PPH,SPCL BLK,INF.P/N 801...5952 (RCA JACK)
QTY 1 . . . . . 1/4-20 HEXNUT, BLK, INF. P/N 810...0929
QTY 1 . . . 4-40 KEPNUT, ZINC, INF. P/N 814...5978 (GROUND)
QTY 1 . . . LOCKWASHER, SPLIT, 1/4 BLK, INF. P/N 827...0943
QTY 2 . . . . . 4" TYWRAP, BLK, INF. P/N 861...1499

CONNECTORS

QTY 1 . . . . MOLEX CONNECTOR ASSY,INF.# 639...6666-PART A
(MOLEX P/N 03-09-2022 - CONNECTOR PLUG - QTY. 1)
(MOLEX P/N 02-09-2103 - MALE TERMINAL - QTY. 2)
(.205" FAST-ON CRIMP TERMINALS, .020" THICK - QTY. 1)
(.250" FAST-ON CRIMP TERMINALS, .032" THICK - QTY. 1)
11.8", 14 AWG RED,SPK TRMNL WIRE (MOLEX/SPKR)
11.8", 14 AWG RED/BLK,SPK TRMNL WIRE (MOLEX/SPKR)

QTY 1 . . . . MOLEX CONNECTOR ASSY,INF.# 639...6673-PART B
(MOLEX P/N 03-09-1022 - CONNECTOR RECEPTACLE - QTY.1)
(MOLEX P/N 02-09-1104 - FEMALE TERMINAL - QTY. 2)
11", 14 AWG RED,SPK TRMNL WIRE(PCB1 - SPKR+)
11", 14 AWG RED/BLK,SPK TRMNL WIRE(PCB1 - SPKR-)
QTY 3 . . . . .187" FAST-ON TERMINAL - FEMALE, .032" THICK
QTY 1 . . . . . .125" ID, RING TONGUE TERMINAL
QTY 2 . . . . . .250" FAST-ON TERMINAL-FEMALE, .032" THICK

WIRES

5.0" . . . . . 16 AWG RED,IEC WIRE(POSITIVE)
5.0" . . . . . 16 AWG WHITE,IEC WIRE (NEUTRAL)
2.5" . . . . . 16 AWG GRN,IEC WIRE (GROUND)
8.1" . . . . . 18 AWG RED,LED WIRE(PCB1 - LED101 ANODE)
8.1" . . . . . 18 AWG BLK,LED WIRE(PCB1 - LED101 CATHODE)
4.5" . . . . 20 AWG RED,RIGHT POS HI LEVEL INPUT WIRE(PCB3-J308)
4.5" . . . 20 AWG BLACK,RIGHT NEG HI LEVEL INPUT WIRE(PCB3-J307)
4.5" . . . 20 AWG ORANGE,LEFT POS HI LEVEL INPUT WIRE(PCB3-J306)
4.5" . . . . 20 AWG BLUE,LEFT NEG HI LEVEL INPUT WIRE(PCB3-J305)
4.5" . . 20 AWG BROWN,RIGHT POS HI LEVEL OUTPUT WIRE(PCB3-J304)
4.5" . . 20 AWG WHITE,RIGHT NEG HI LEVEL OUTPUT WIRE(PCB3-J303)
4.5" . . 20 AWG YELLOW,LEFT POS HI LEVEL OUTPUT WIRE(PCB3-J302)
4.5" . . . 20 AWG GREEN,LEFT NEG HI LEVEL OUTPUT WIRE(PCB3-J301)

PCB-3 (.021...6625) PASSIVE CROSSOVER PCB ASSY, RS 10 & 12

RESISTORS

15 WATT, 10% TOL, WIRE WOUND, AXIAL

R301,R302 . . . . . 6 Ω - INF. # 140-XXXX

CAPACITORS

NON-POLARIZED ELECTROLYTIC - RADIAL LEAD, 10% TOL, 20% DF

C301,C302 . . . . . 500µF, 100V - INF. # 200-2356

INDUCTORS

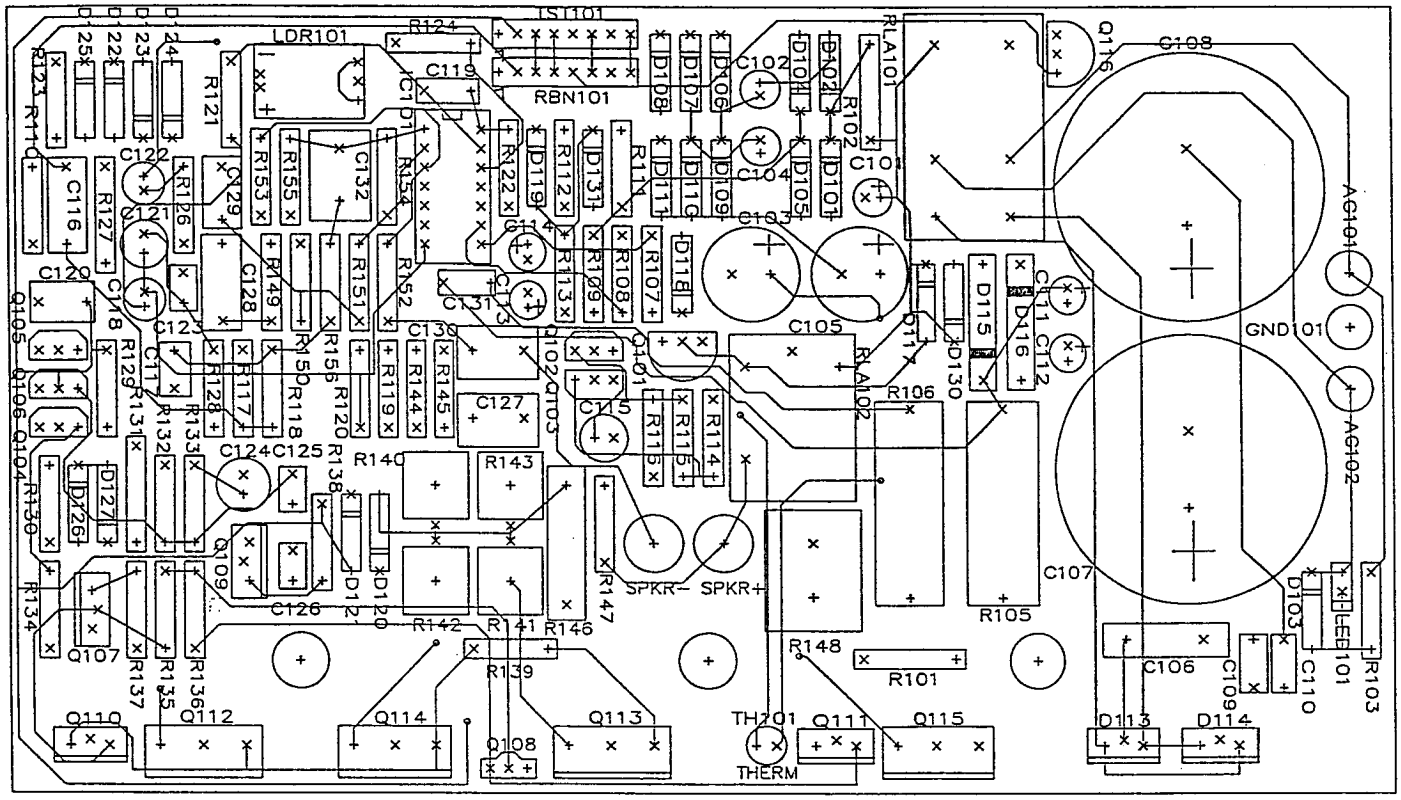
IRON SLUG

L301,L302 . . . . . 1.5 mH - INF. # 443-2888

MISCELLANEOUS

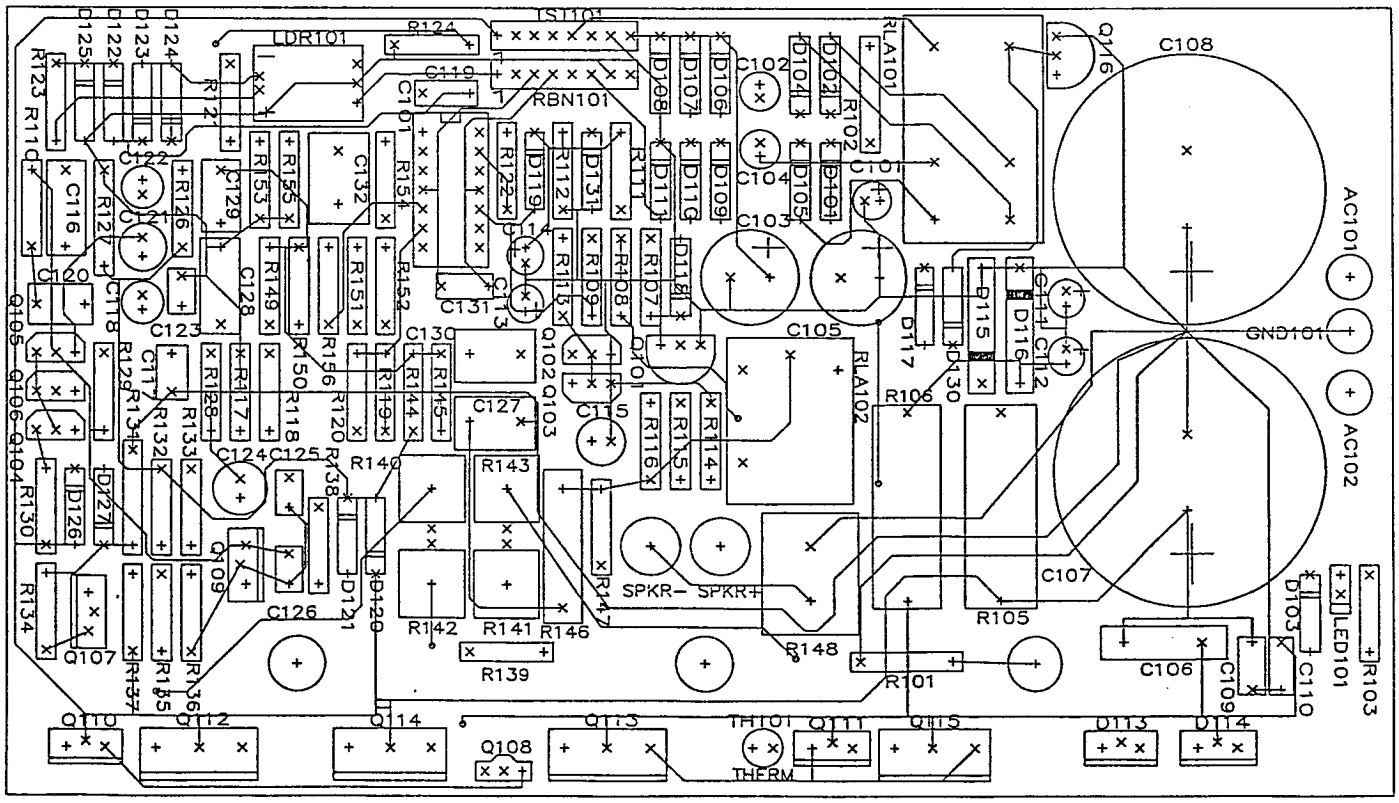
QTY 1 . . . . . BLANK PC BOARD, INF. P/N 560-6620

RBN301 . . 4 PIN FRICTION LOCK HEADER, MOLEX P/N 22-23-2041



COMPONENT SIDE

SOLDER SIDE



REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 3	–	

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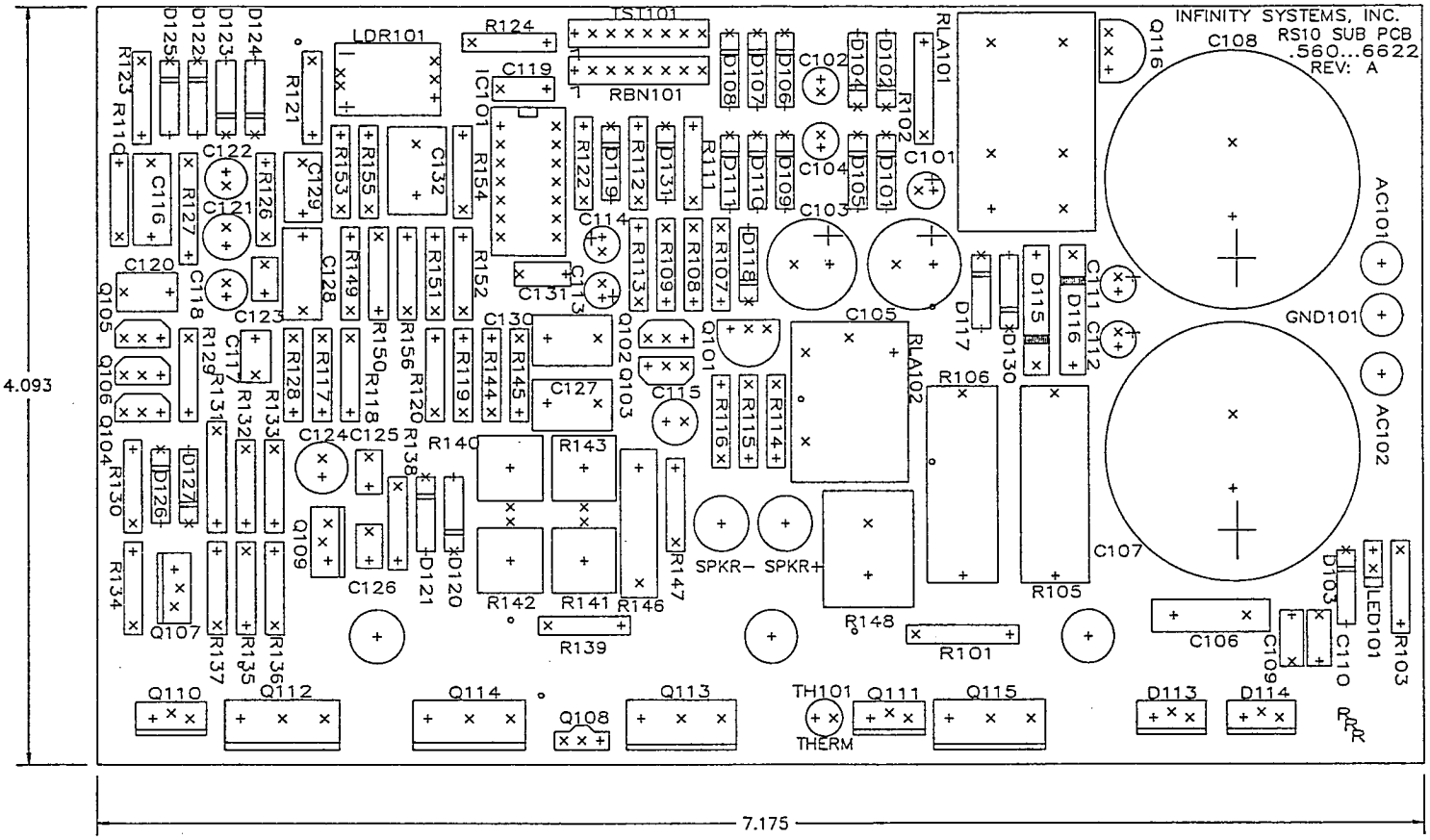
SILKSCREEN



JUL 19 1994

NOTES:
1. MATERIAL FR–4 DOUBLE–SIDED
   COPPER WEIGHT: 2 Oz.
2. MASK COLOR: BLUE
3. TRACES NOT SHOWN IN TRUE SIZE.
4. COMPONENT OUTLINES SHOWN ON ALL SIDES FOR REFERENCE ONLY.

Infinity Systems Inc.	
RS 10 SUB	
DEVIATION – AMPLIFIER PCB FABRICATION SHEET	
P/N: .560...6622	
DWG NO: 560–6622–01802–45A	
DRAWN BY: R. RAHL	
DATE: 05–13–93	SCALE: 2x
APPROVED: D. Hutchins	
CAD FILE NAME: RS\SUBS\10\6622B02F	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: B–DV2	SHEET 2 OF 3

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 3	–	

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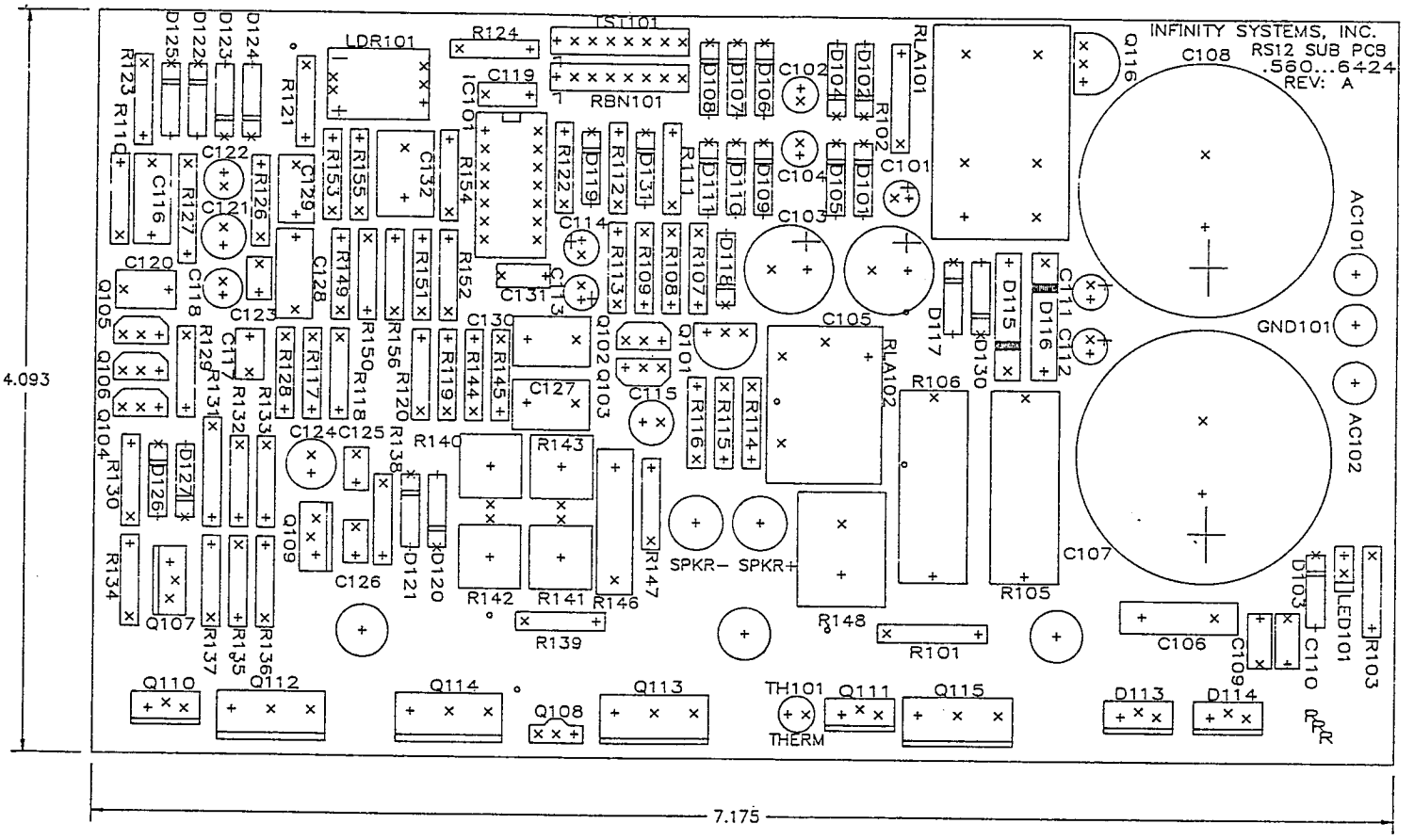
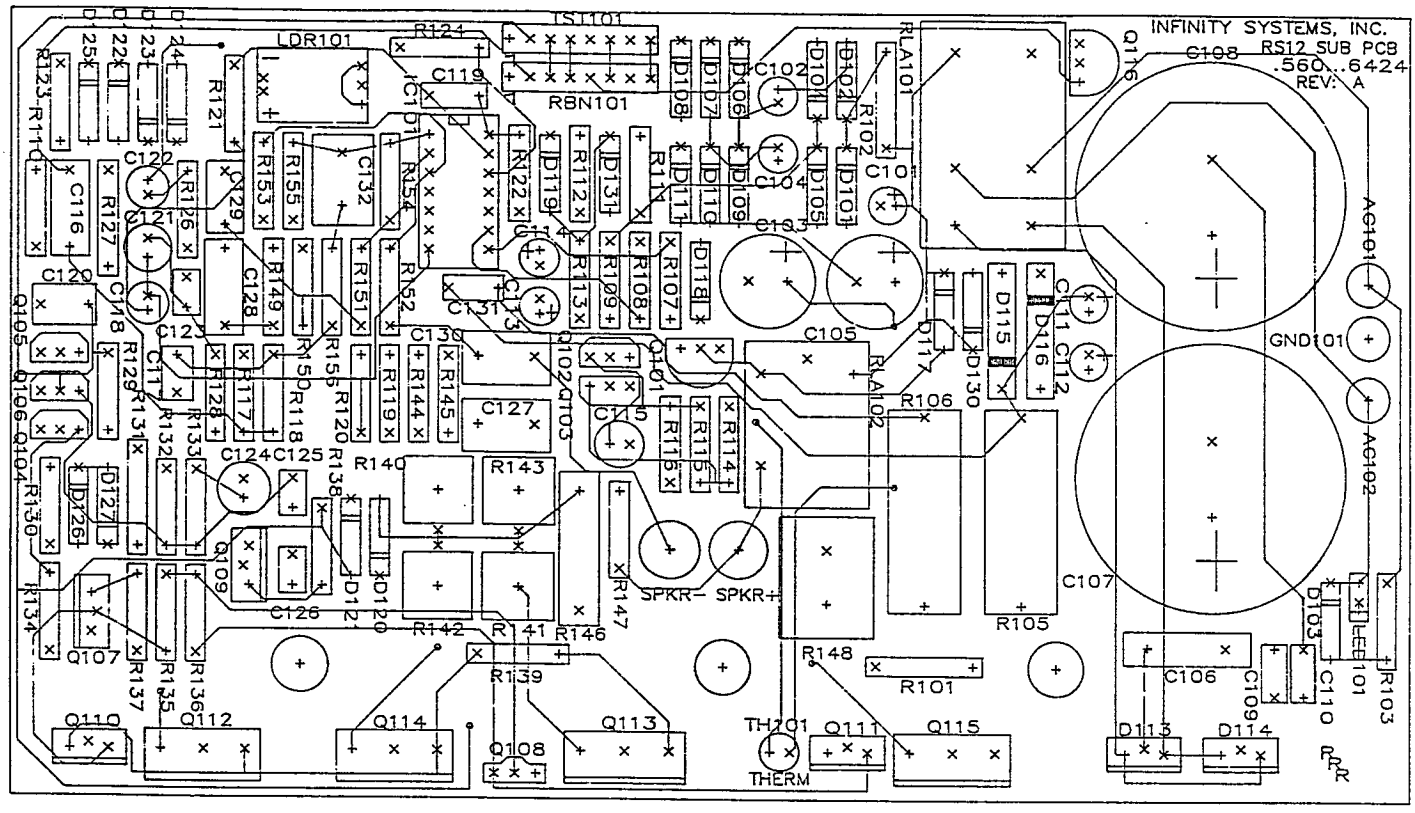


NOTES:

1. MATERIAL FR–4 DOUBLE–SIDED
   COPPER WEIGHT: 2 Oz.
2. MASK COLOR: BLUE
3. TRACES NOT SHOWN IN TRUE SIZE.
4. COMPONENT OUTLINES SHOWN ON ALL SIDES FOR REFERENCE ONLY.

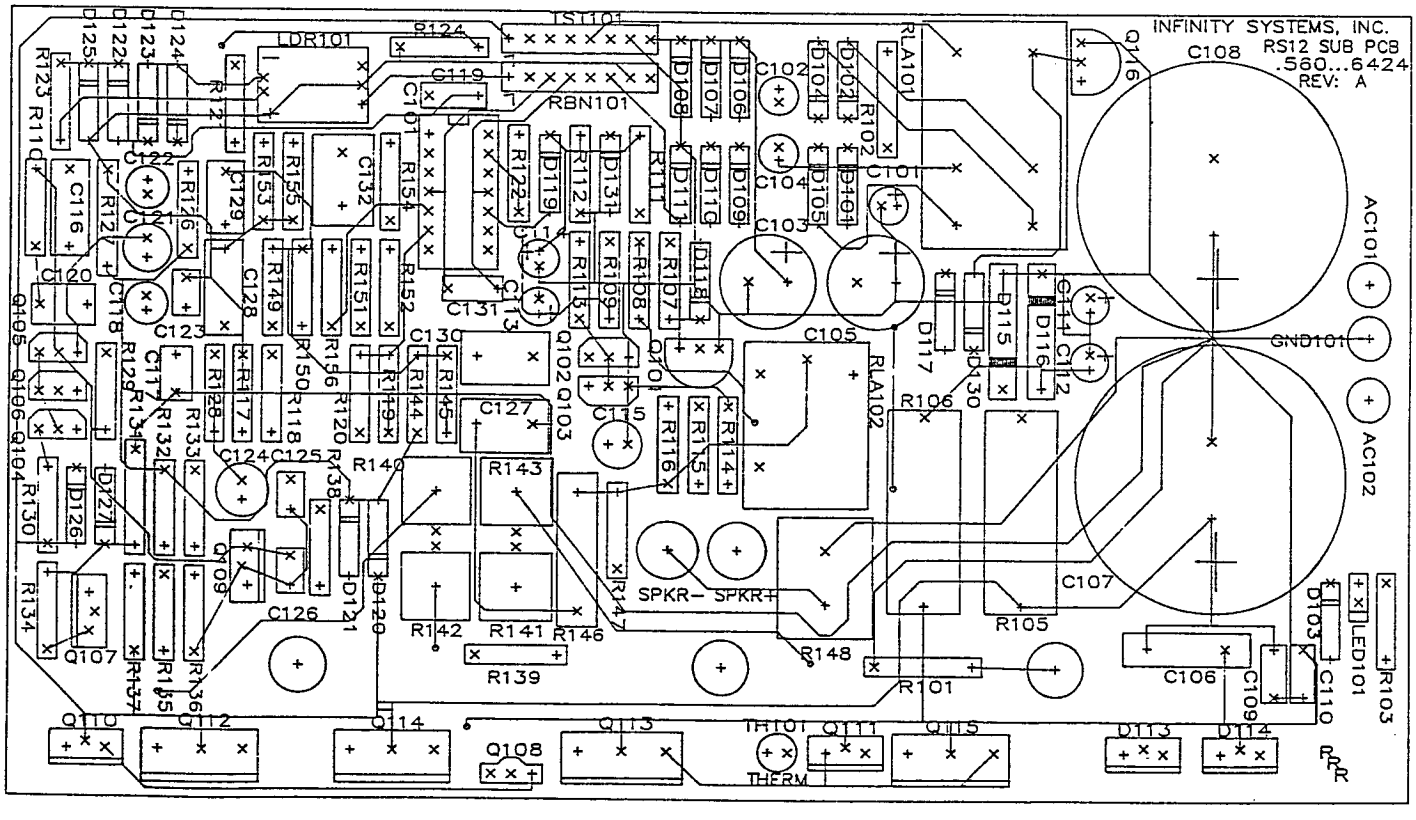
JAN 31 1994

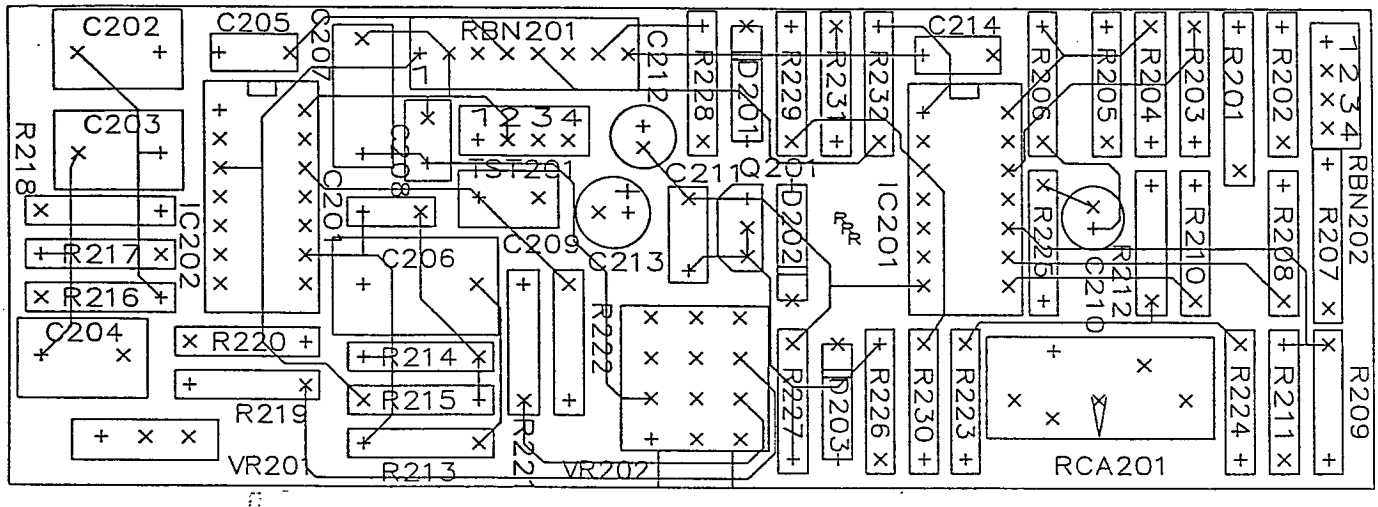
Infinity Systems Inc.	
RS 12 SUB	
DEVIATION – AMPLIFIER PCB FABRICATION DWG	
P/N: .560...6424	
DWG NO: 560–6424–01732–458	
DRAWN BY: R. RAHL	
DATE: 05–03–93	SCALE: 2x
APPROVED: D. Hutchins 1-27-94	
CAD FILE NAME: RS\SUBS\12\64248DFB	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: B–DV	SHEET 2 OF 3



COMPONENT SIDE

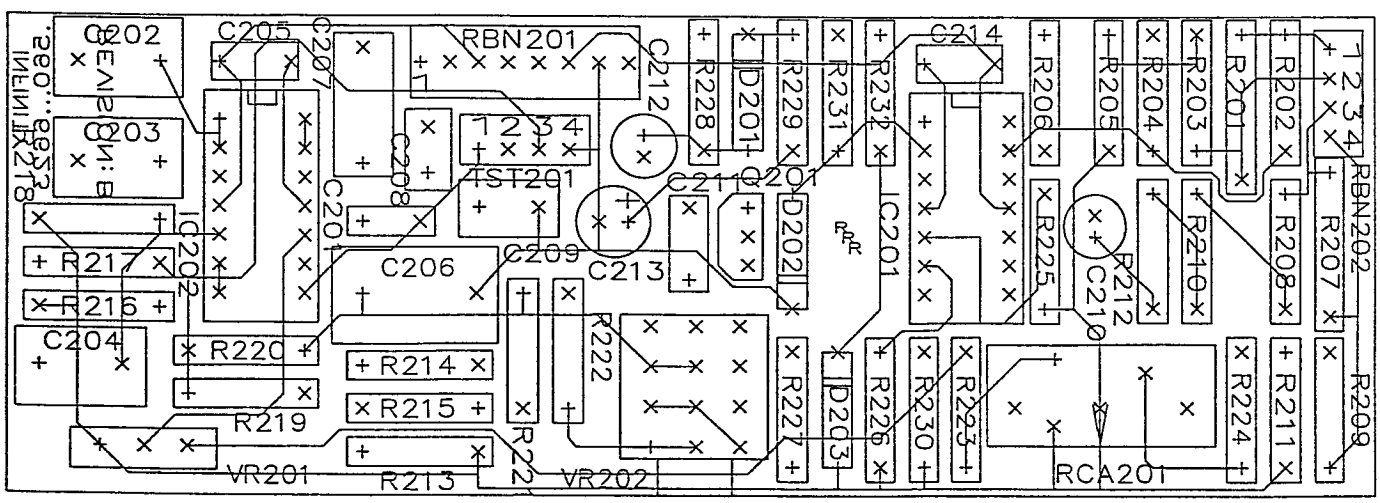
SOLDER SIDE





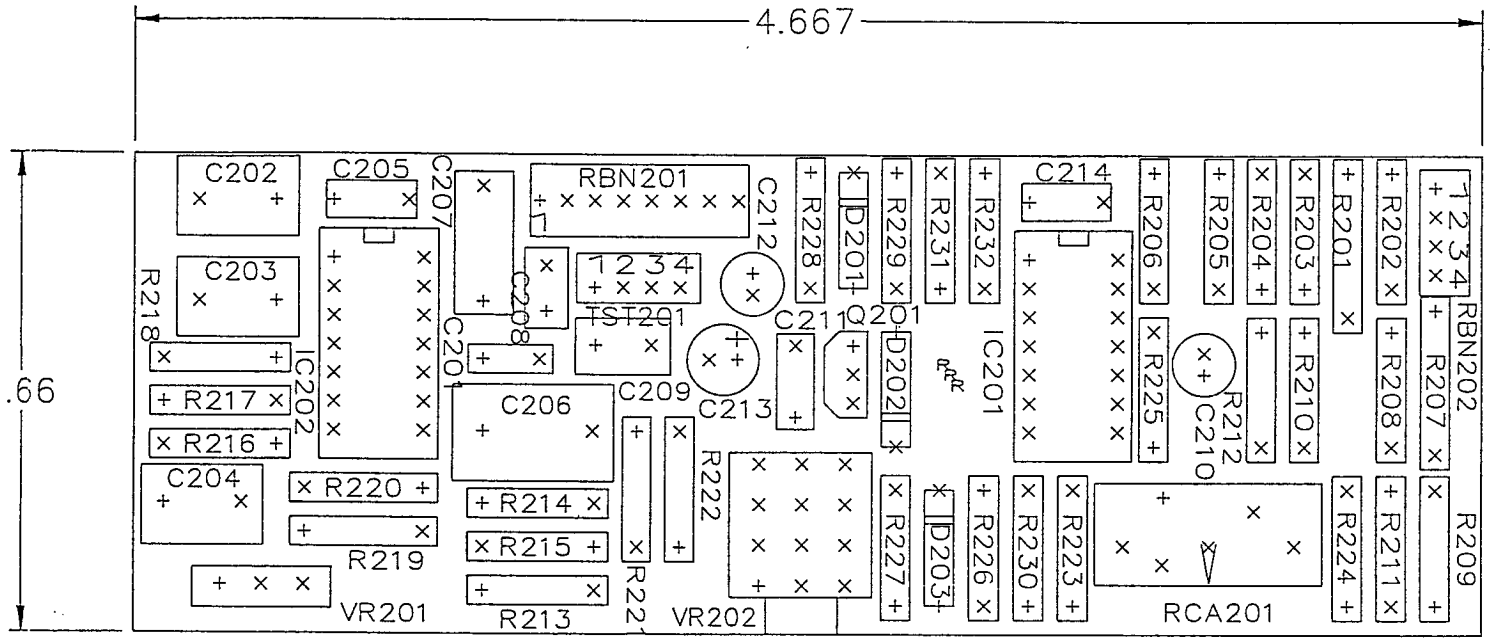
COMPONENT SIDE

1.6



SOLDER SIDE

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 3	–	



SILKSCREEN

NOTES:

1. MATERIAL: FR–4 DOUBLE–SIDED
   COPPER WEIGHT: 2 Oz.
2. MASK COLOR: BLUE
3. TRACES NOT SHOWN IN TRUE SIZE.
4. COMPONENT OUTLINES SHOWN ON ALL VIEWS FOR REFERENCE ONLY.

JUL 19 1994

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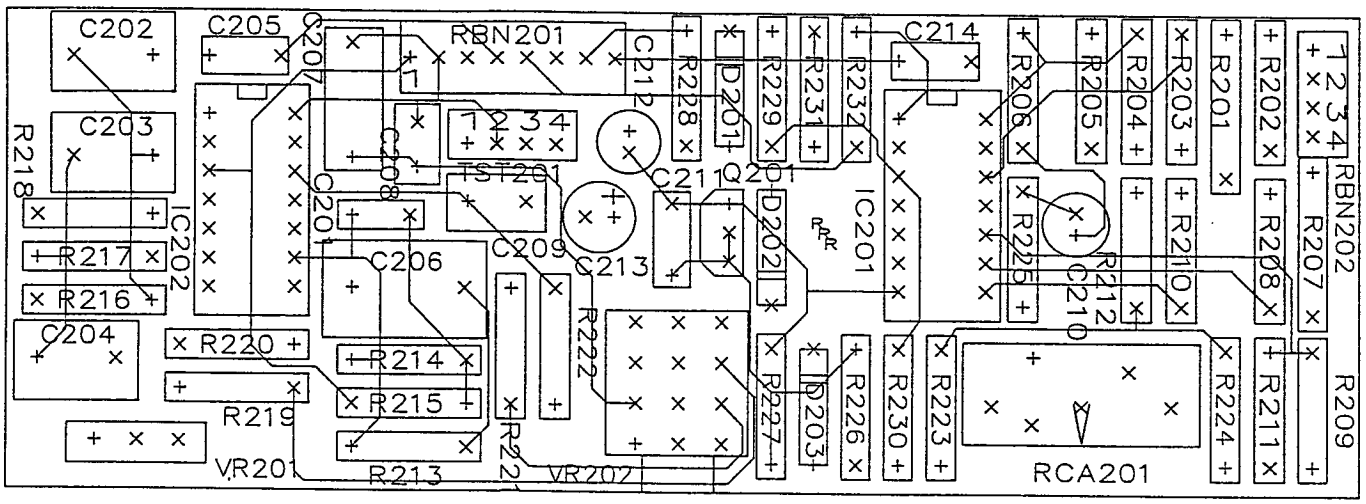
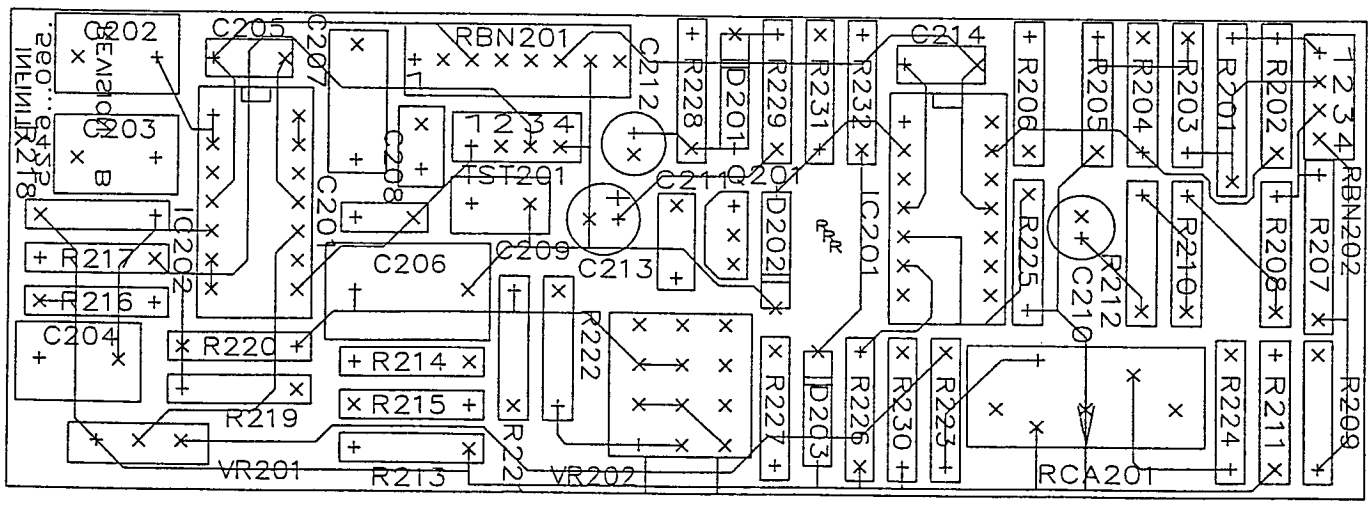
Infinity Systems Inc.	
RS 10 SUB	
DEVIATION – FILTER PCB FABRICATION DRAWING	
P/N: .560...6623	
DWG NO: 560–6623–01803–45A	
DRAWN BY: R. RAHL	
DATE: 05–13–93	SCALE: 3x
APPROVED:	
CAD FILE NAME: RS\SUBS\10\66238D2F	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: B–DV2	SHEET 2 OF 3

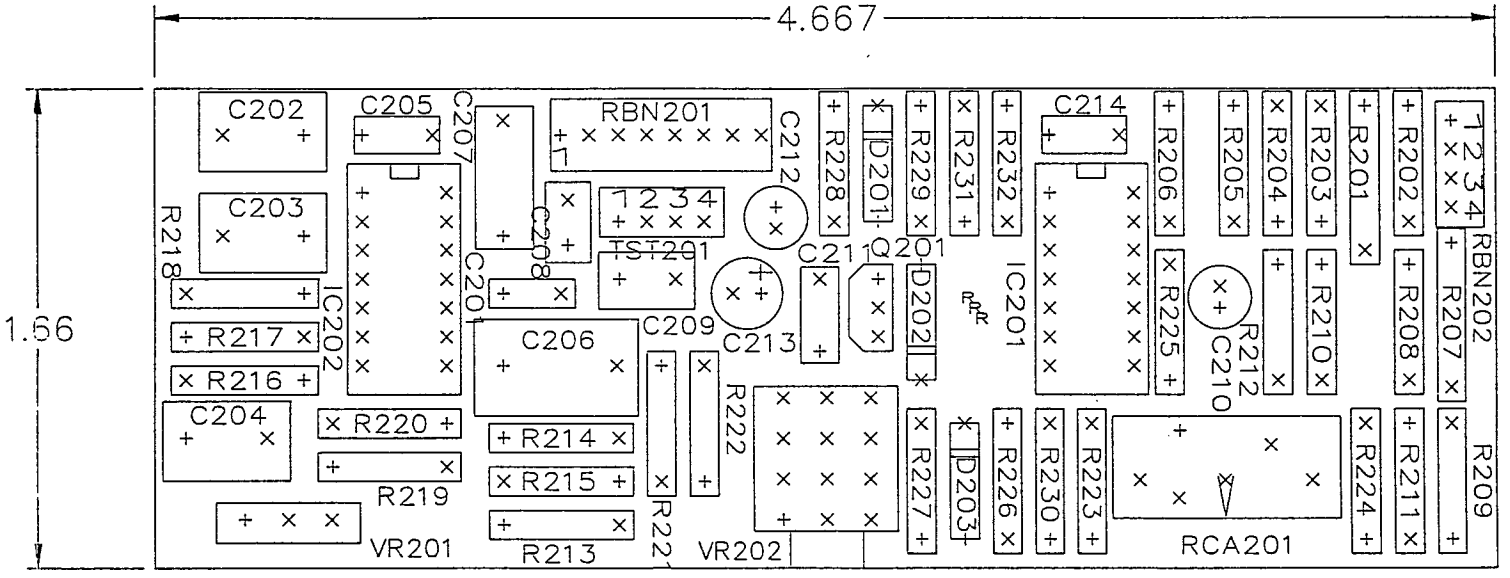


COMPONENT SIDE



SOLDER SIDE

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 3	–	



SILKSCREEN

NOTES:

1. MATERIAL: FR–4 DOUBLE–SIDED
   COPPER WEIGHT: 2 Oz.
2. MASK COLOR: BLUE
3. TRACES NOT SHOWN IN TRUE SIZE.
4. COMPONENT OUTLINES SHOWN ON ALL VIEWS FOR REFERENCE ONLY.

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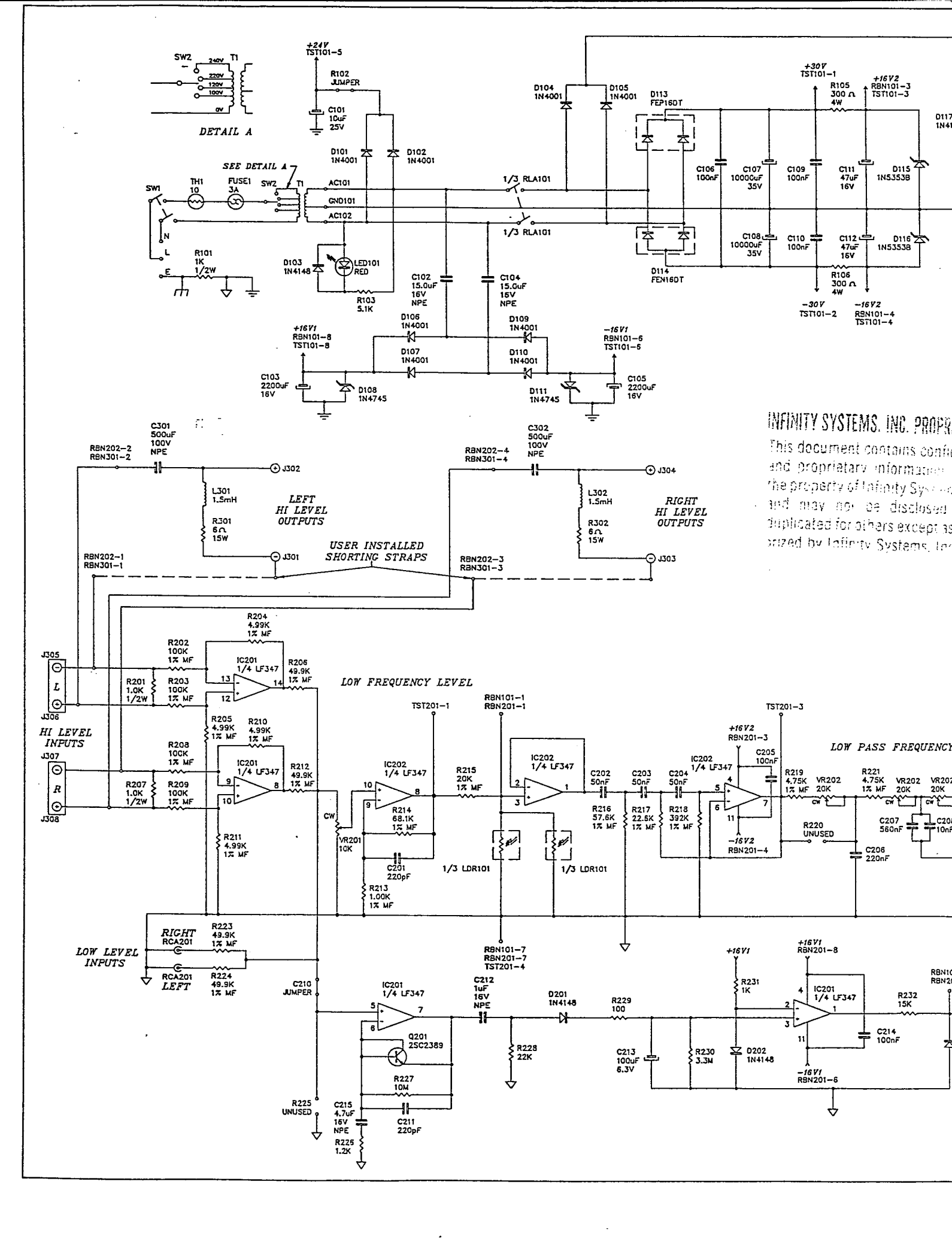
Infinity Systems Inc.	
RS 12 SUB	
DEVIATION – FILTER PCB FABRICATION DRAWING	
P/N: .560...6425	
DWG NO: 560-6425-01733-458	
DRAWN BY: R. RAHL	
DATE: 05-05-93	SCALE: 3x
APPROVED: D. Hutchins 1-27-94	
CAD FILE NAME: RS\SUBS\12\6425BDFB	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: B-DV	SHEET 2 OF 3


DETAIL A
SEE DETAIL A
SW2
T1
240V
220V
120V
100V
0V
+24V
TST101-5
R102
JUMPER
C101
10uF
25V
D101
1N4001
D102
1N4001
SW1
TH1
10
FUSE1
3A
AC101
GND101
AC102
1/3 RLA101
1/3 RLA101
N
L
E
R101
1K
1/2W
D103
1N4148
LED101
RED
R103
5.1K
C102
15.0uF
16V
NPE
C104
15.0uF
16V
NPE
D104
1N4001
D105
1N4001
D113
FEP16DT
D114
FEN16DT
+30V
TST101-1
R105
300 Ω
4W
+16V2
RBN101-3
TST101-3
R106
300 Ω
4W
-30V
TST101-2
-16V2
RBN101-4
TST101-4
C106
100nF
C107
10000uF
35V
C108
10000uF
35V
C109
100nF
C110
100nF
C111
47uF
16V
C112
47uF
16V
D115
1N5353B
D116
1N5353B
D106
1N4001
D107
1N4001
D109
1N4001
D110
1N4001
+16V1
RBN101-8
TST101-8
-16V1
RBN101-6
TST101-5
C103
2200uF
16V
D108
1N4745
D111
1N4745
C105
2200uF
16V
C301
500uF
100V
NPE
RBN202-2
RBN301-2
J302
L301
1.5mH
R301
6Ω
15W
LEFT
HI LEVEL
OUTPUTS
C302
500uF
100V
NPE
RBN202-4
RBN301-4
J304
L302
1.5mH
R302
6Ω
15W
RIGHT
HI LEVEL
OUTPUTS
RBN202-1
RBN301-1
J301
USER INSTALLED
SHORTING STRAPS
RBN202-3
RBN301-3
J303
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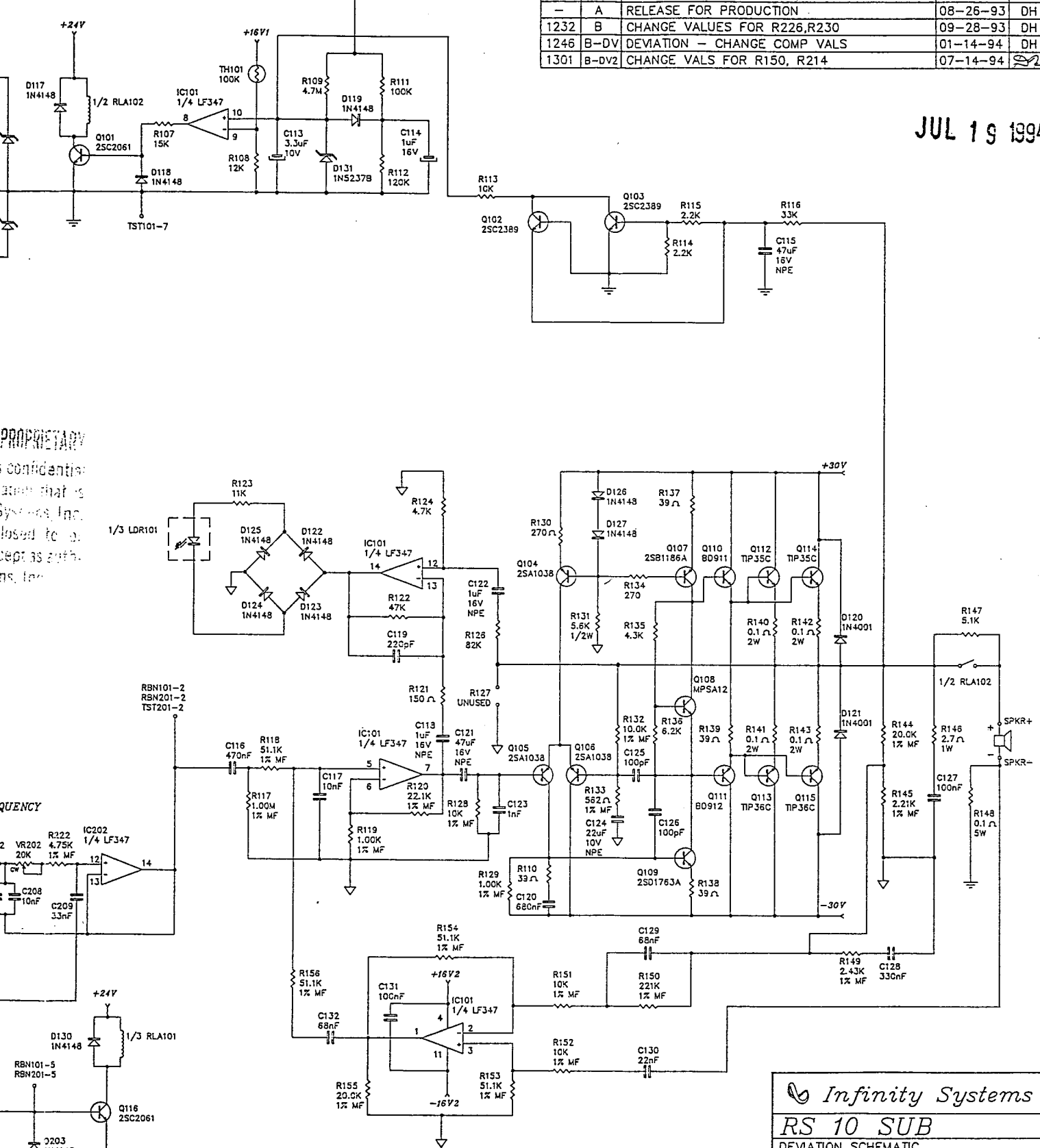
orized by Infinity Systems, In
J305
L
J306
HI LEVEL
INPUTS
J307
R
J308
R201
1.0K
1/2W
R202
100K
1% MF
R203
100K
1% MF
R204
4.99K
1% MF
IC201
1/4 LF347
R206
49.9K
1% MF
LOW FREQUENCY LEVEL
R205
4.99K
1% MF
R210
4.99K
1% MF
R207
1.0K
1/2W
R208
100K
1% MF
R209
100K
1% MF
R212
49.9K
1% MF
R211
4.99K
1% MF
TST201-1
RBN101-1
RBN201-1
IC202
1/4 LF347
R215
20K
1% MF
CW
VR201
10K
R214
68.1K
1% MF
C201
220pF
R213
1.00K
1% MF
1/3 LDR101
1/3 LDR101
C202
50nF
R216
57.6K
1% MF
C203
50nF
R217
22.5K
1% MF
C204
50nF
R218
392K
1% MF
TST201-3
+16V2
RBN201-3
C205
100nF
-16V2
RBN201-4
R219
4.75K
1% MF
VR202
20K
CW
R220
UNUSED
C206
220nF
LOW PASS FREQUENCY
R221
4.75K
1% MF
VR202
20K
CW
C207
560nF
RIGHT
RCA201
LOW LEVEL
INPUTS
RCA201
LEFT
R223
49.9K
1% MF
R224
49.9K
1% MF
C210
JUMPER
RBN101-7
RBN201-7
TST201-4
IC201
1/4 LF347
C212
1uF
16V
NPE
D201
1N4148
R229
100
+16V1
R231
1K
+16V1
RBN201-8
IC201
1/4 LF347
R232
15K
C214
100nF
-16V1
RBN201-6
Q201
2SC2389
R228
22K
C213
100uF
6.3V
R230
3.3M
D202
1N4148
R227
10M
R225
UNUSED
C215
4.7uF
16V
NPE
C211
220pF
R225
1.2K

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	A	RELEASE FOR PRODUCTION	08–26–93	DH JI
1232	B	CHANGE VALUES FOR R226,R230	09–28–93	DH JI
1246	B–DV	DEVIATION – CHANGE COMP VALS	01–14–94	DH JI
1301	B–DV2	CHANGE VALS FOR R150, R214	07–14–94	DH 7-19

JUL 19 1994



NOTES:

1. 100 SERIES COMPONENTS ARE LOCATED ON PCB .560...6622 (AMPLIFIER BOARD).
2. 200 SERIES COMPONENTS ARE LOCATED ON PCB .560...6623 (FILTER BOARD).
3. 300 SERIES COMPONENTS ARE LOCATED ON PCB .560...6620 (CROSSOVER BOARD).
4. ALL NON 100, 200, OR 300 SERIES COMPONENTS ARE NON–BOARD–MOUNTED COMPONENTS.
5. ALL RESISTORS TO BE 1/4 WATT, CARBON FILM, 5% TOLERANCE UNLESS OTHERWISE NOTED.

Infinity Systems Inc.

RS 10 SUB

DEVIATION SCHEMATIC

P/N: .036...6621

DWG NO: 036–6621–01761–45A

DRAWN BY: R. RAHL

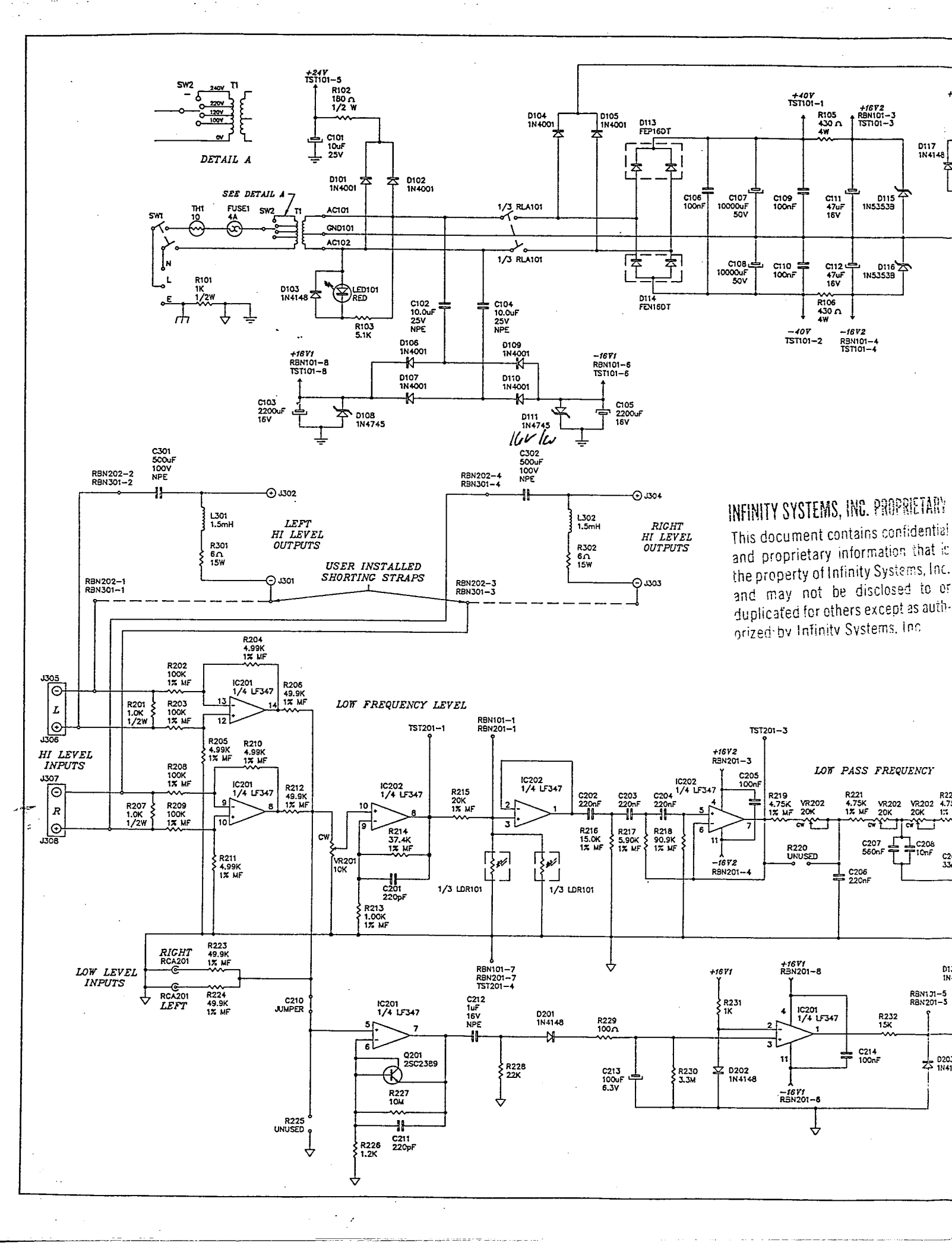
DATE: 01–14–93 | SCALE: N/A

APPROVED: DH JI 08–27–93

CAD FILE NAME: RS\SUBS\10\SCEMBDV2

TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32
DECIMALS: .XX ± = .01 .XXX ± = .005

REVISION: B–DV2 | SHEET 1 OF 1



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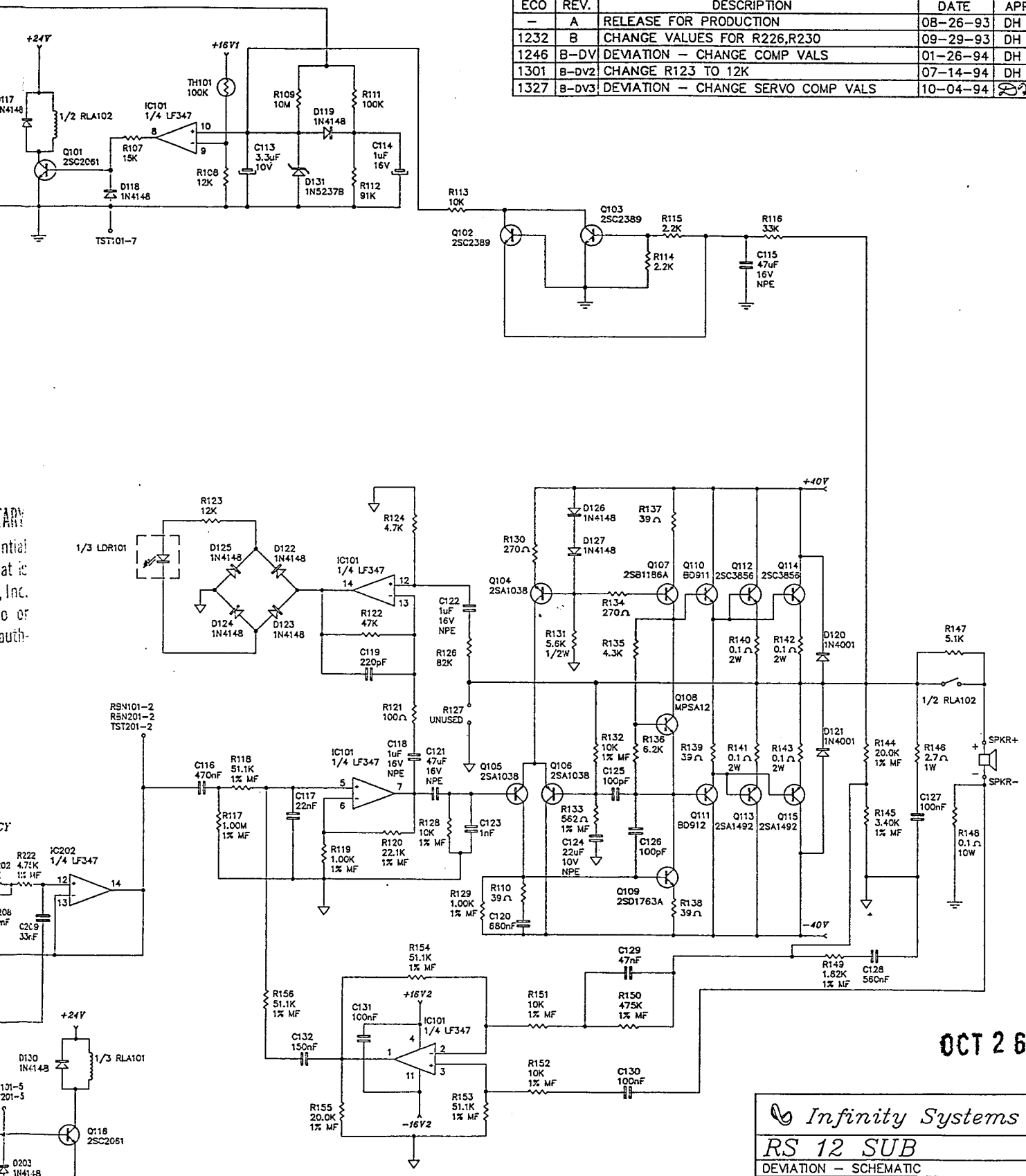
REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	A	RELEASE FOR PRODUCTION	08-26-93	DH JI
1232	B	CHANGE VALUES FOR R226,R230	09-29-93	DH JI
1246	B-DV	DEVIATION – CHANGE COMP VALS	01-26-94	DH JI
1301	B-DV2	CHANGE R123 TO 12K	07-14-94	DH JI
1327	B-DV3	DEVIATION – CHANGE SERVO COMP VALS	10-04-94	DH JI



OCT 2 6 1994

NOTES:
1. 100 SERIES COMPONENTS ARE LOCATED ON PCB .560...6424 (AMPLIFIER BOARD).
2. 200 SERIES COMPONENTS ARE LOCATED ON PCB .560...6425 (FILTER BOARD).
3. 300 SERIES COMPONENTS ARE LOCATED ON PCB .560...6620 (CROSSOVER BOARD).
4. ALL NON 100, 200, OR 300 SERIES COMPONENTS ARE NON-BOARD-MOUNTED COMPONENTS.
5. ALL RESISTORS TO BE 1/4 WATT, CARBON FILM, 5% TOLERANCE UNLESS OTHERWISE NOTED.

Infinity Systems Inc.

RS 12 SUB

DEVIATION – SCHEMATIC

P/N: .036...6421

DWG NO: 036-6421-01694-45B

DRAWN BY: R. RAHL

DATE: 01-14-93 SCALE: N/A

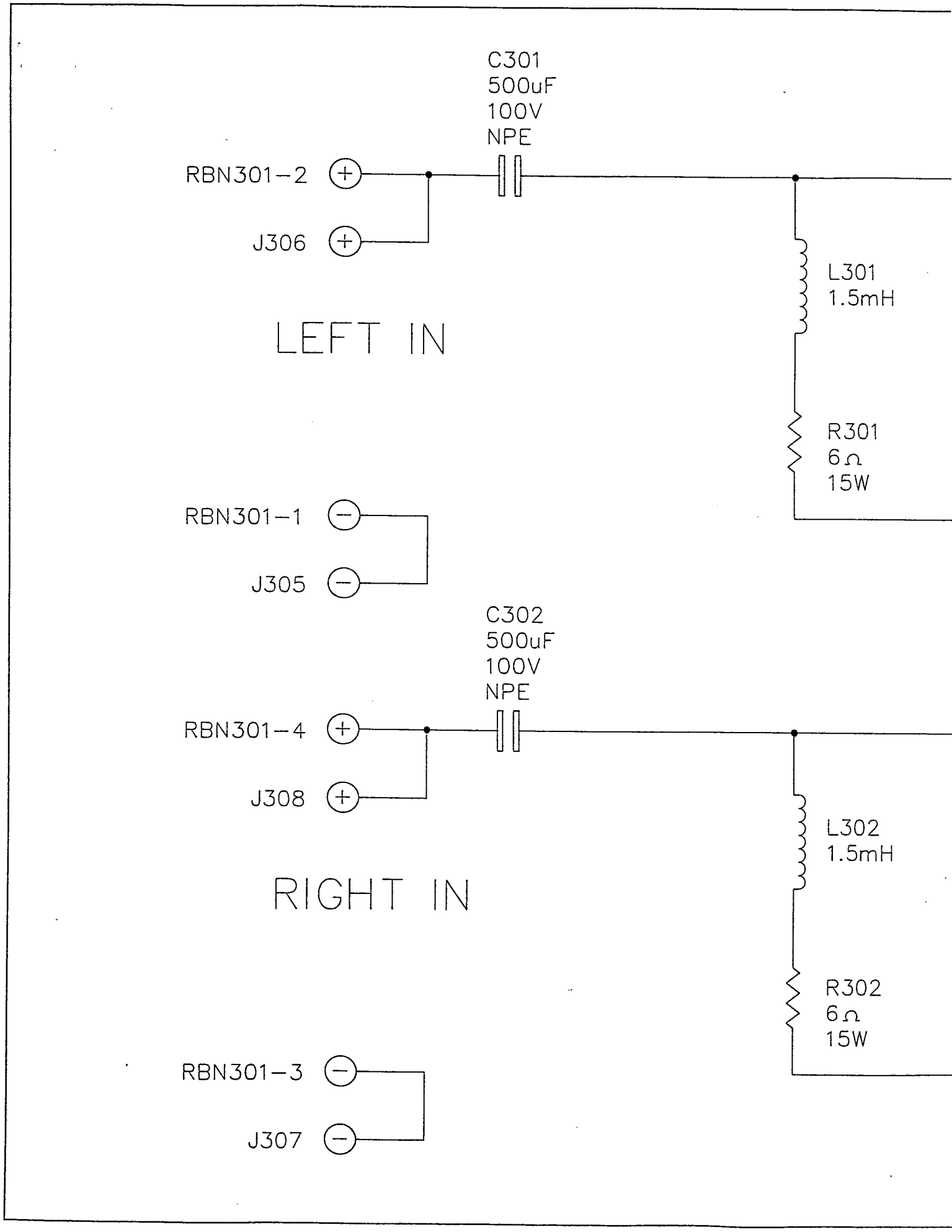
APPROVED: DH JI 08-27-93

CAD FILE NAME: RS\SUBS\12\SCEMBDV3

TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32
DECIMALS: .XX ± = .01 .XXX ± = .005

REVISION: B-DV3 SHEET 1 OF 1

35


C301
500uF
100V
NPE
RBN301-2
J306
L301
1.5mH
LEFT IN
R301
6Ω
15W
RBN301-1
J305
C302
500uF
100V
NPE
RBN301-4
J308
L302
1.5mH
RIGHT IN
R302
6Ω
15W
RBN301-3
J307

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	A	RELEASE FOR PRODUCTION	08-09-93	

J302

LEFT OUT

J301

J304

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RIGHT OUT

JAN 31 1994

J303

Infinity Systems Inc.	
RS 10/12 SUB CROSSOVER	
PRINTED CIRCUIT BOARD SCHEMATIC	
P/N: .560...6620	
DWG NO: 560-6620-01762-45A	
DRAWN BY: R. RAHL	
DATE: 04-06-93	SCALE: N/A
APPROVED:	8-10-93
CAD FILE NAME: C:\RS\SUBS\6620ASCH	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: A	SHEET 1 OF 3

DEC 10 1991

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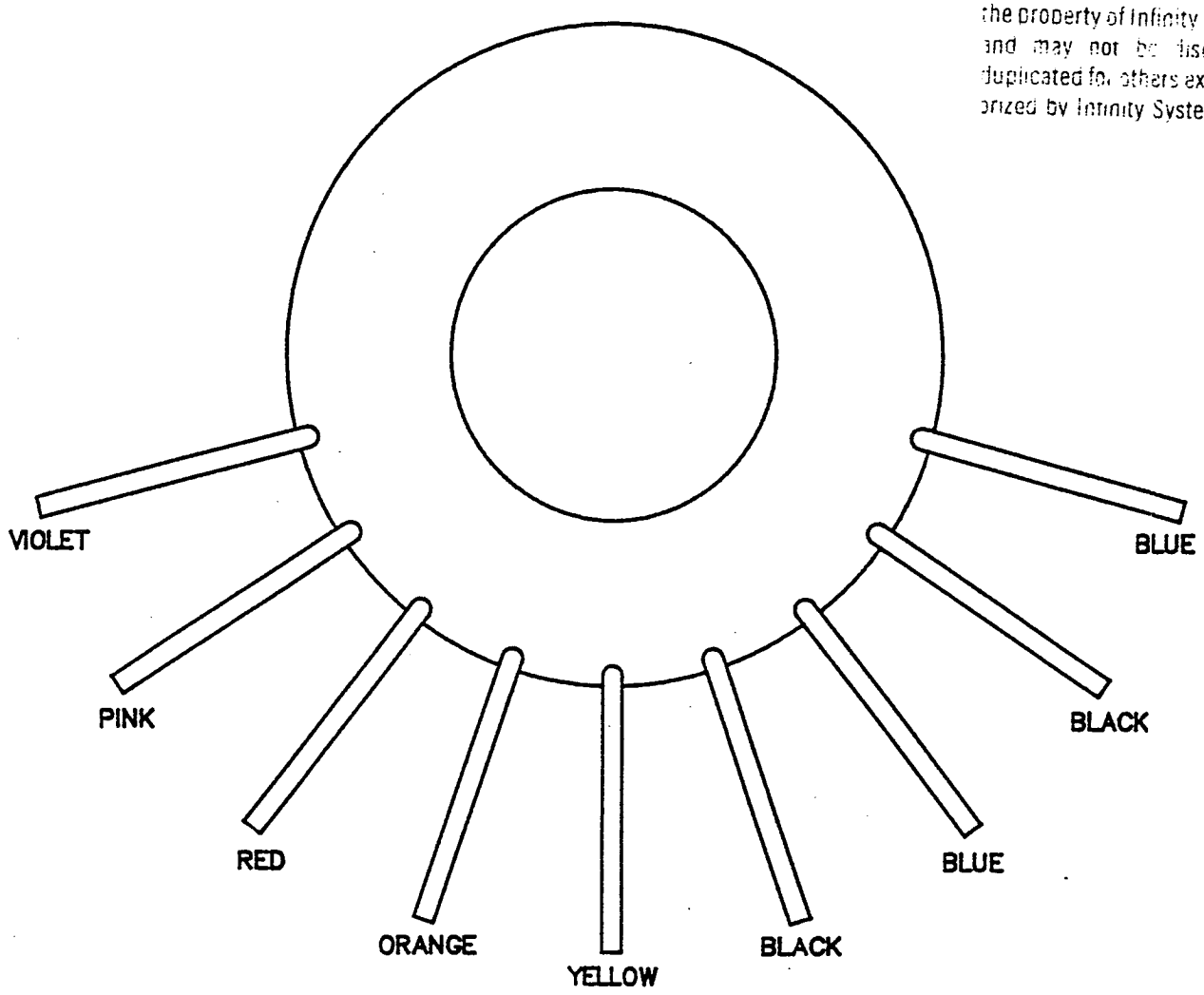
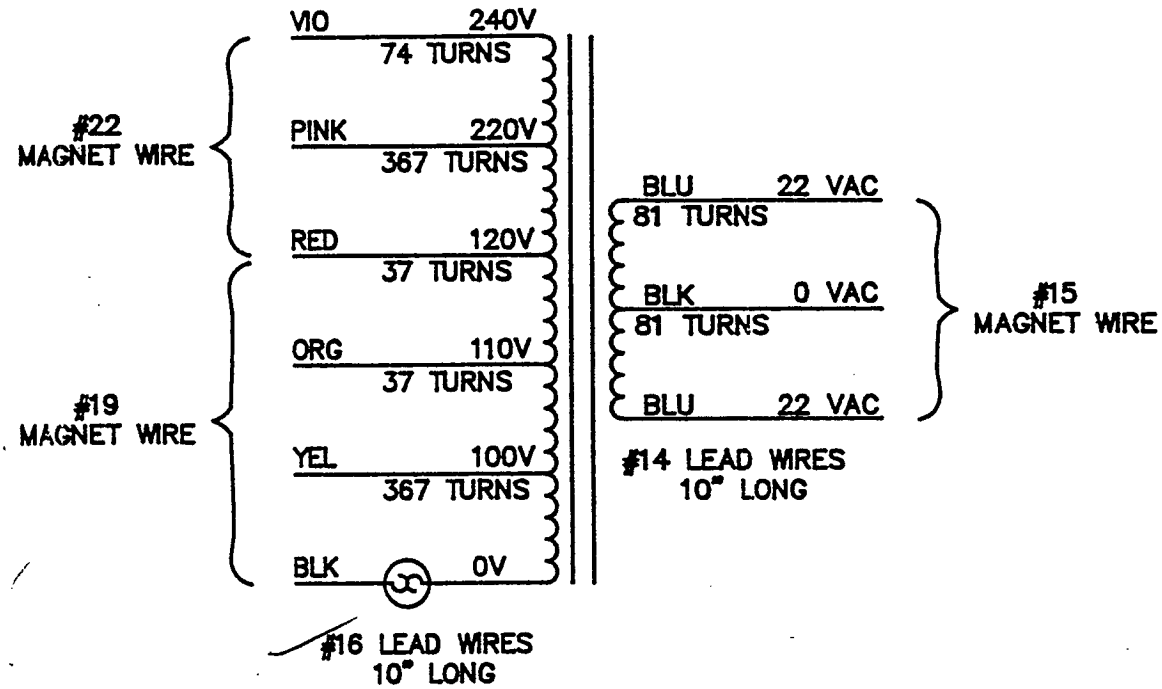


DIAGRAM A

INFINITY SYSTEMS, INC.
P/N: 415-5155
REV: D

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	A	RELEASE FOR PRODUCTION	08-24-90	GS
–	B	ADD NOTE 6	11-14-90	RP
863	C	CHG NOTE 6; ADD NOTE 7	05-08-91	RP
888	D	ADD NOTES 8,9,10; CHG NOTE 1	07-24-91	RP

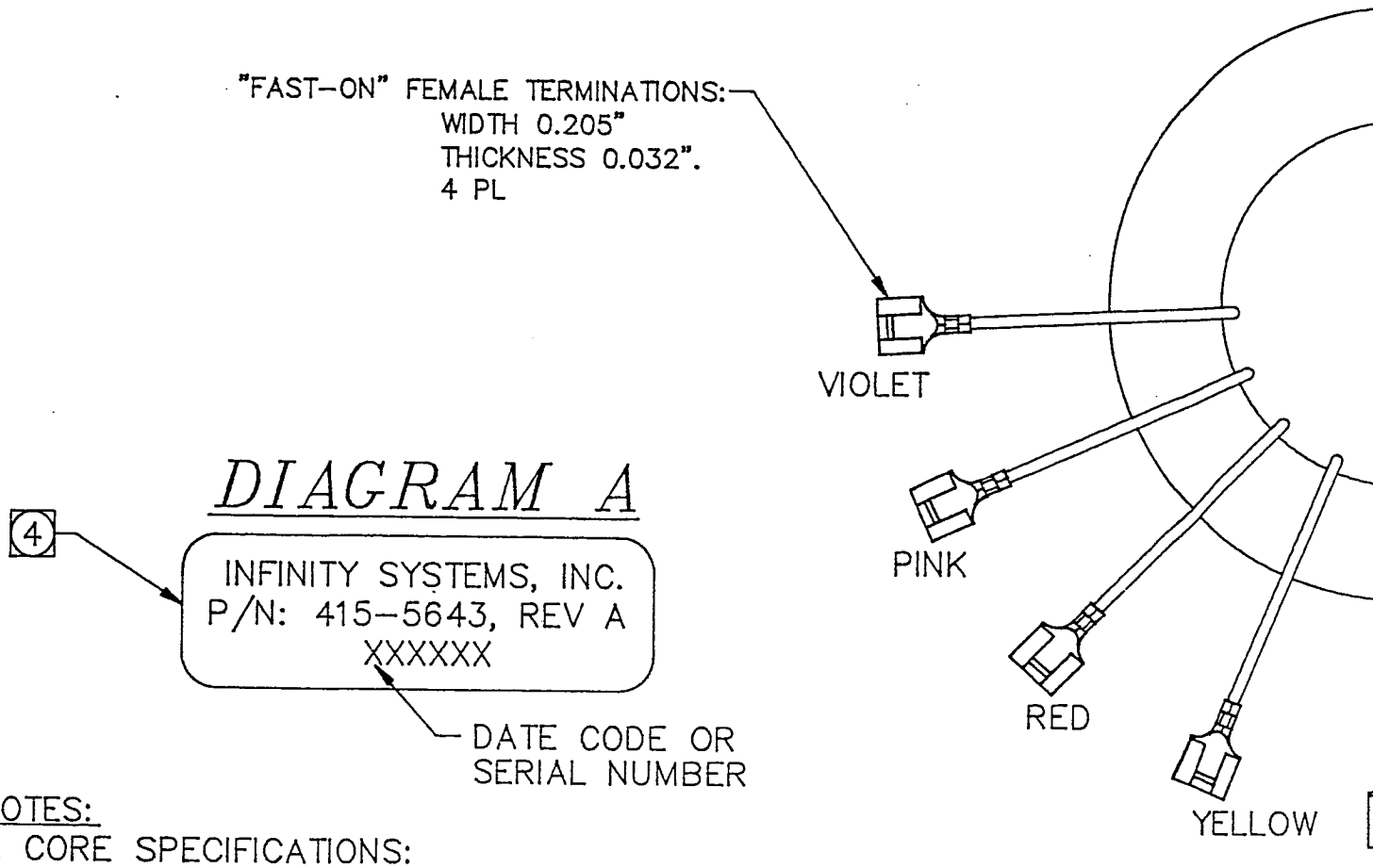


NOTES:

1. CORE SPECIFICATIONS:
   GRAIN ORIENTED SILICON STEEL M6 OR BETTER
   OUTER DIMENSION: 3.25"
   INNER DIMENSION: 2.0"
   HEIGHT: 2.0"
   WEIGHT: 2.25"
2. CORE TO BE INSULATED WITH 30 MIL POLYPROPYLENE
3. INSULATION BETWEEN PRIMARY AND SECONDARY TO BE POLYPROPYLENE
   20 – 30 MIL THICKNESS
4. LABEL TO BE PLACED UNDER FINAL TAPE WRAP (SEE DIAGRAM A),
   VENDOR TO CHOOSE LABEL SIZE
5. THERMAL PROTECTOR:
   MFG: PORTAGE ELECTRONIC PRODUCTS, INC.
   MODEL: G
   UL FILE: E42562
6. TRANSFORMER MUST BE UL, CSA, AND SEMKO CERTIFIED
7. TRANSFORMER TO BE HI-POT TESTED IN ACCORDANCE WITH CSA PROCEDURES
8. EXCITATION CURRENT: ≤ 15mA @ 120V 60Hz
9. POWER RATING: 170VA
10. MAXIMUM DIMENSIONS OF TRANSFORMER:
    HEIGHT: 2.75"
    DIAMETER: 4.35"

Infinity Systems Inc.	
SERVO CNTRL SBWFR	
POWER TRANSFORMER	
P/N: .415-.5155	
DWG NO: 415-5155-01077-36D	
DRAWN BY: R. RAHL	DATE: 08-13-90
APPROVED:	SCALE: 1/1
REVISION: D	PAGE 1 OF 1

ACAD FILE: 36\4155155



NOTES:

1. CORE SPECIFICATIONS:
   GRAIN ORIENTED SILICON STEEL M4 OR BETTER
   OUTER DIMENSIONS: 3.25"
   INNER DIMENSIONS: 2.00"
2. CORE TO BE INSULATED WITH 30 MIL POLYPROPYLENE
3. INSULATION BETWEEN PRIMARY AND SECONDARY TO BE MYLAR 8-10 MIL T
4. LABEL TO BE PLACED UNDER FINAL TAPE WRAP (SEE DIAGRAM A), VENDOR
   LABEL TO INCLUDE EITHER DATE CODE OR SERIAL NUMBER WHICH CAN BE
5. THERMAL PROTECTOR:
   MFG: PORTAGE ELECTRONIC PRODUCTS INC
   MODEL: G
   UL FILE: E42562
6. TRANSFORMER MUST BE UL, CSA, AND SEMKO CERTIFIED
7. TRANSFORMER TO BE HI-POT TESTED IN ACCORDANCE WITH CSA PROCEDU
8. SECONDARY WINDING POWER RATING: 202 VA @ 100% DUTY.
9. MAXIMUM DIMENSIONS OF TRANSFORMER:
   HEIGHT: 2.75"
   DIAMETER: 4.13"
10. OPEN CIRCUIT EXCITATION CURRENT THROUGH PRIMARY WINDING $\leq$ 15 mA
11. SECONDARY WINDINGS OUTPUT REQUIREMENTS:
    A) ALL PRIMARY WINDINGS TO YIELD SAME SECONDARY OUTPUT.
    B) OPEN CIRCUIT VOLTAGE = 30.0 Vrms $\pm$ 1% @ 120 V, 60 HZ LINE.
    C) FULL LOAD VOLTAGE = 27.3 Vrms $\pm$ 1% WHEN PRIMARY WINDING DRAWS
       HZ LINE.
       NOTE: PRIMARY WINDING VOLTAGE MUST BE ADJUSTED TO 120 V FOR FU

REVISIONS				
ECO	REV	DESCRIPTION	DATE	APPRV'D
–	A	RELEASE FOR PRODUCTION	07–09–93	

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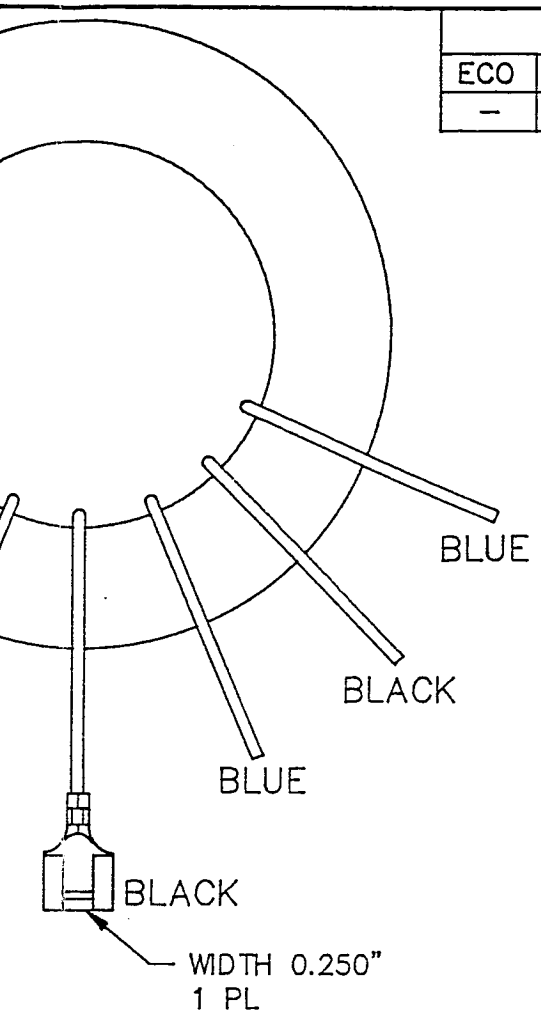
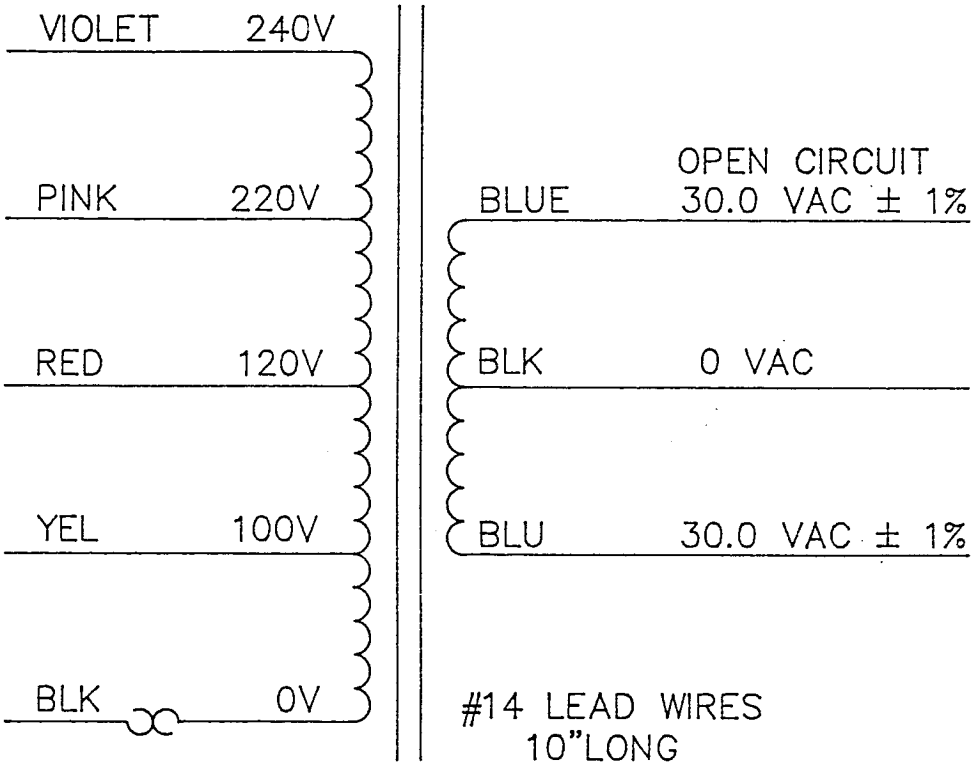




#16 LEAD WIRES
10" LONG

#14 LEAD WIRES
10"LONG

. THICKNESS
OOR TO CHOOSE LABEL SIZE
BE DATE CROSS–REFERENCED.

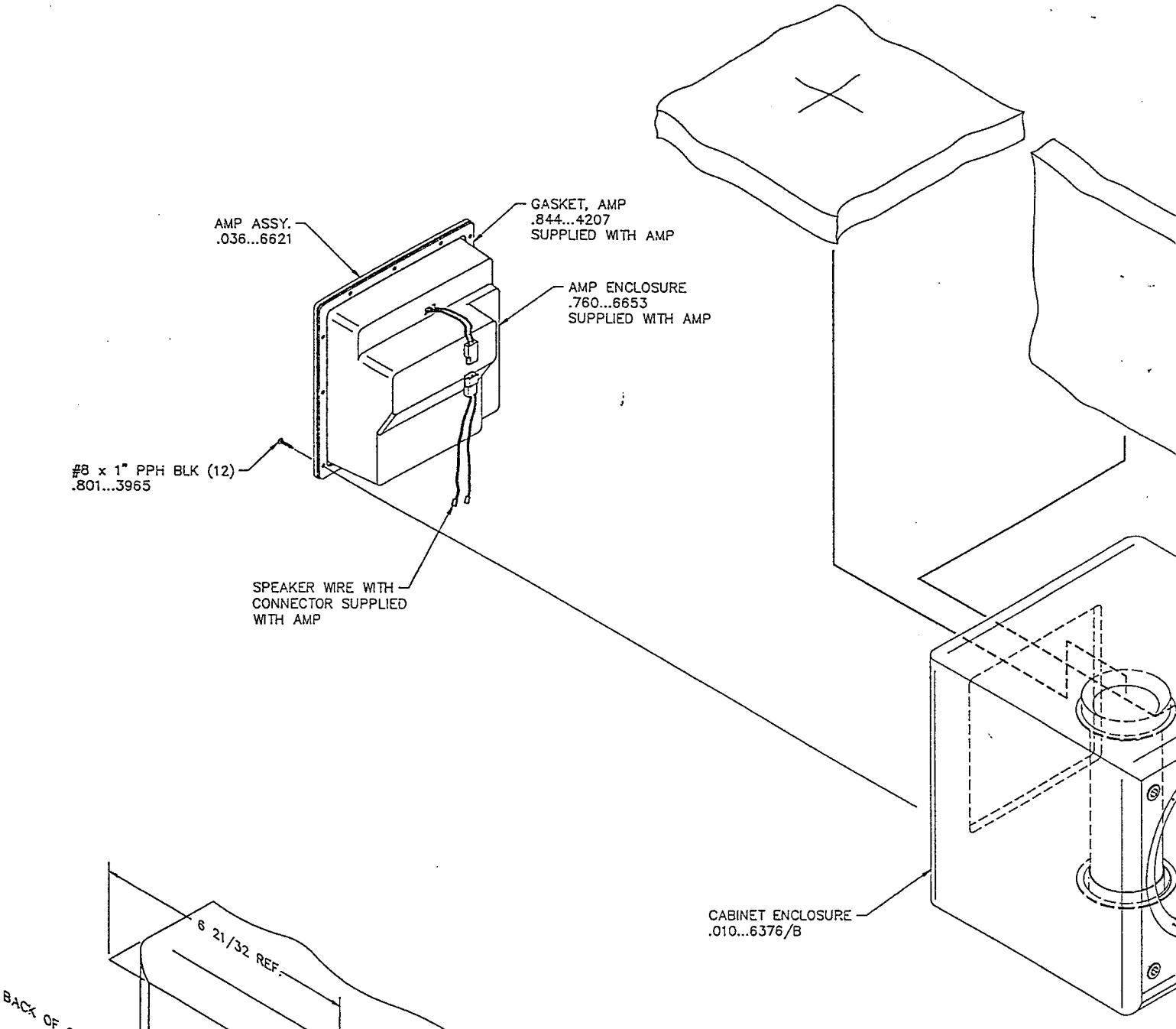
DURES

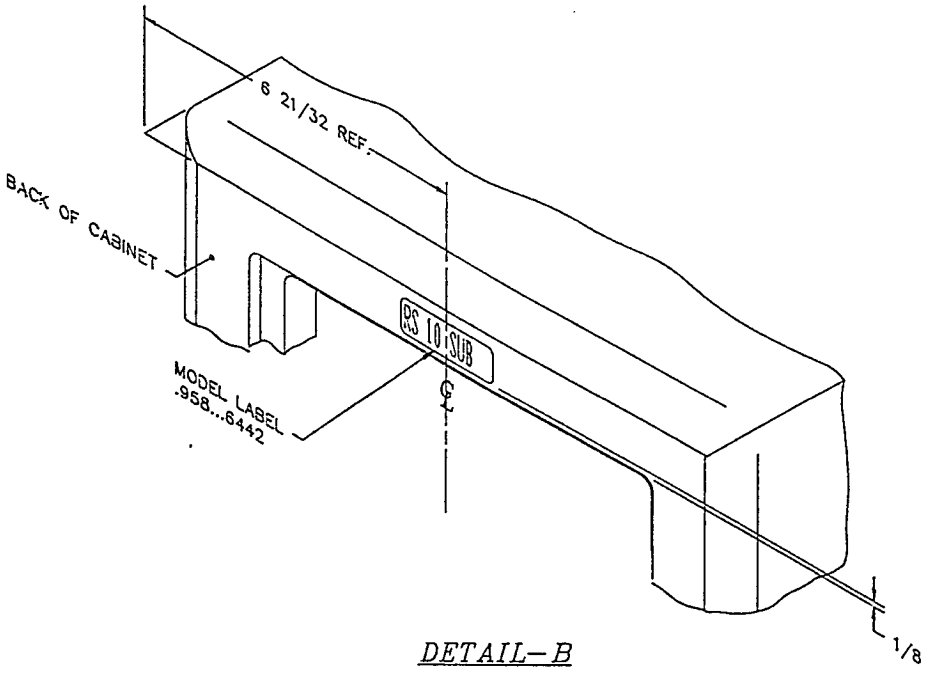
A @ 120 V, 60 HZ LINE.

AWS 2.0A FROM 120 V, 60

FULL LOAD MEASUREMENTS.

Infinity Systems, Inc.			
DESC: POWER TRANSFORMER			
PART NUMBER: 415–5643			
DWG NO: 415–5643–01696–45A		MODEL USED ON:	
DRN BY: K. CHRISTIE	APP: 7-9		
DATE: 10–02–92	SCALE: 1x	RS 12 SUB	
TOLERANCES: ANG: ± 0.5° FRACT: ± 1/32" DEC: .XX: ± .01" .XXX: ± .005"		REV.	A





DETAIL—B

JUN 2 2 1995

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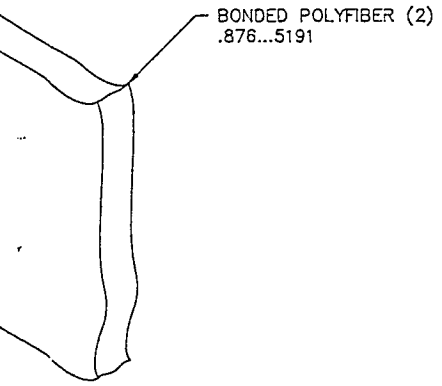
REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	A	RELEASE FOR PRODUCTION	02–26–93	J.I.
1176	B	WAS IF70010/B, IS IF40010/B	03–23–93	J.I.
1175	C	WAS 946–6440/B, IS 946–6440	03–24–93	J.I.
1187	D	AMP ENC. P/N 760–6653 WAS 760–4490B, AMP ASSY. P/N 036–6621 WAS 036–5024	05–17–93	J.I.
1192		WFR P/N 902–6716 WAS 902–5320,		
1211	E	ADD BONDED POLYFIBER	07–09–93	J.I.
1357	F	ADDED 940–7670 (SHEET 2 OF 2)	06–02–95	

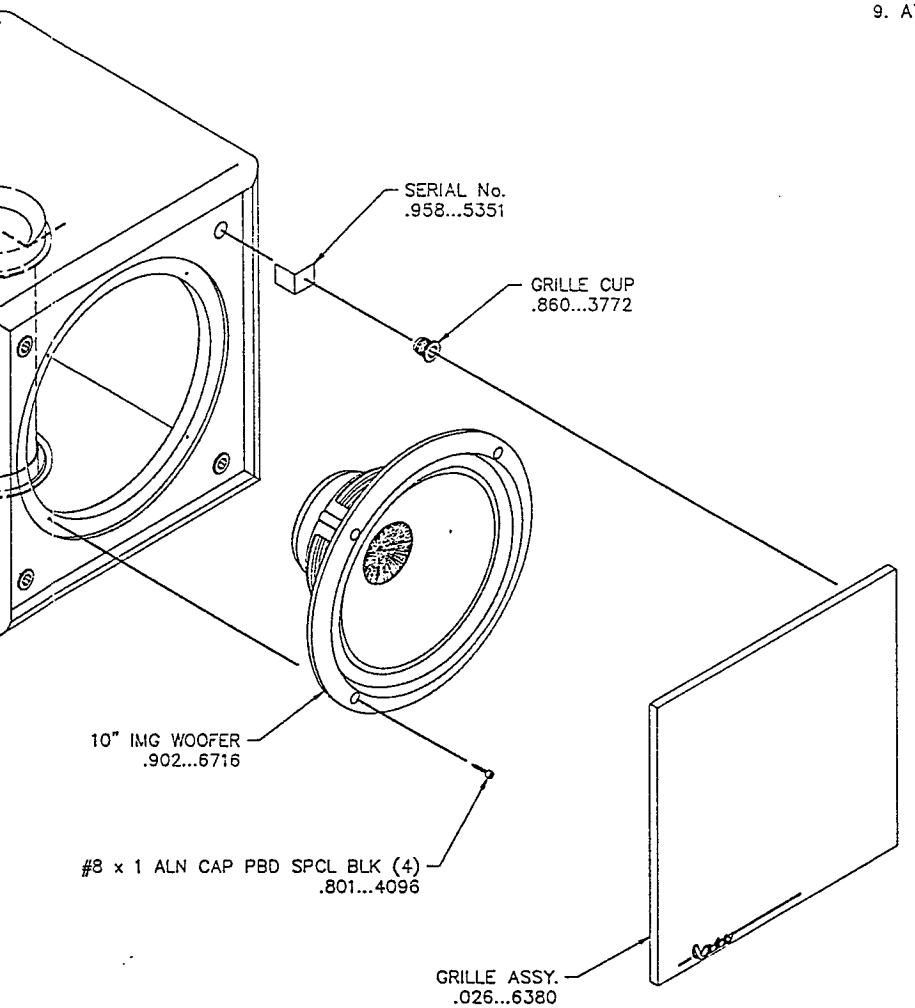


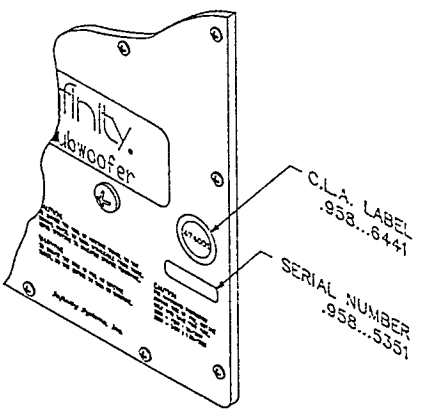
NOTES:

1. ATTACH AMP GASKET (.844...4207) TO AMP STEP ROUT IN CABINET ENCLOSURE ALIGNING SCREW HOLES.
2. ATTACH TWO SHEETS OF BONDED POLYFIBER (.876...5191); ONE TO RIGHT SIDE OF ENCLOSURE AND THE SECOND PIECE MUST HAVE "X" CUT IN THE MIDDLE TO FIT OVER ASSEMBLED PORT TUBE SITTING ON BOTTOM OF ENCLOSURE WITH HOT MELT.
3. PLACE AMP ENCLOSURE (.760...6653) AND AMPLIFIER (.036...6621) IN RECESS IN BACK OF CABINET, SECURE WITH (12) #8 x 1" PPH (.801...3965).
4. CONNECT THE FOLLOWING WIRES:

DRIVERS	POLARITY	WIRE COLOR
WOOFER	+	RED
	–	RED/BLK

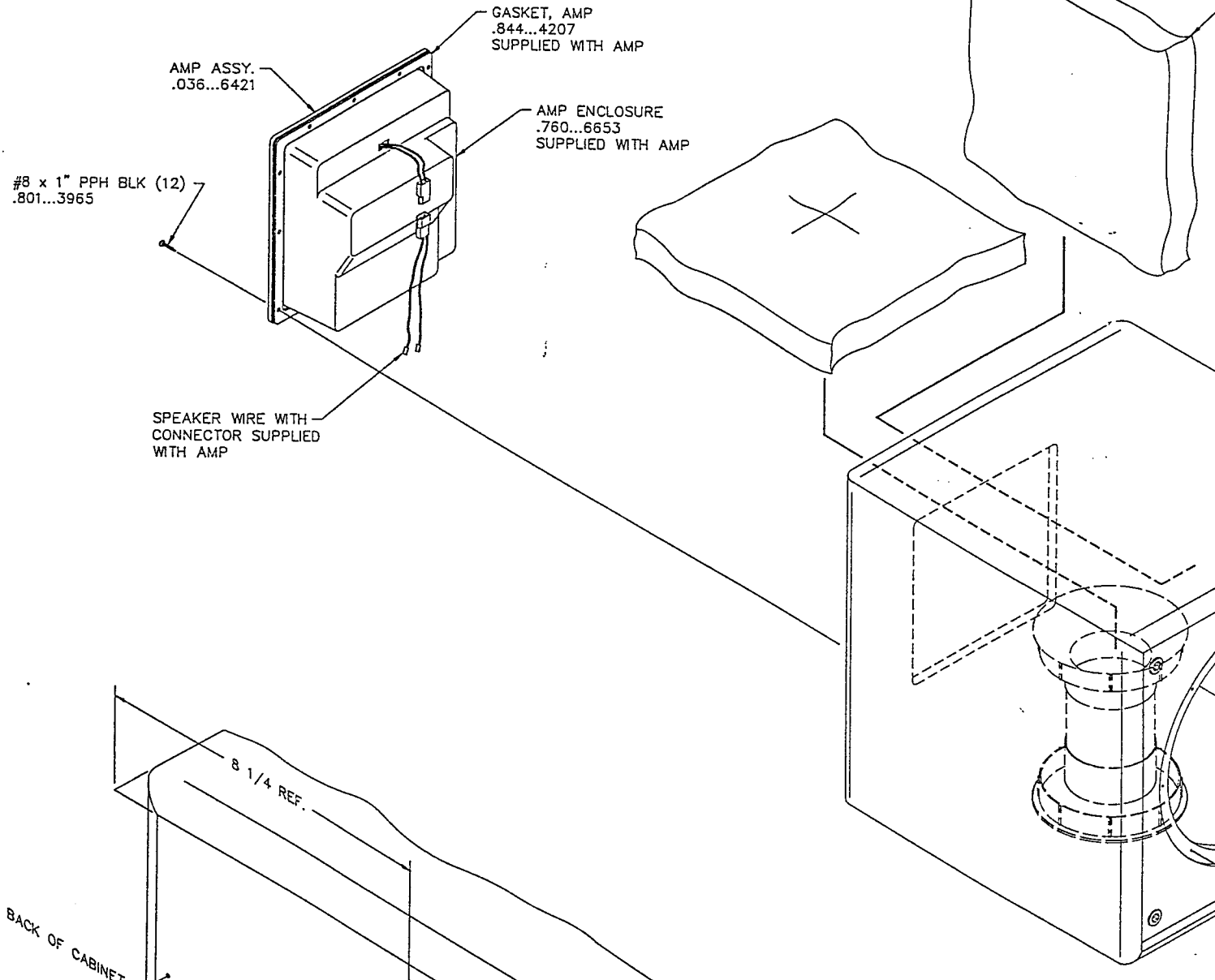
5. WOOFER (902–6716) TO BE MOUNTED (CUPS ORIENTED DOWN) WITH (4) #8 x 1" ALN SCREW (.801...4096).
6. SERIAL NUMBER (.958...5351) TO BE PLACED ON AMPLIFIER ABOVE "CAUTION" LABEL (SEE DETAIL–A), FOLD ADHESIVE SIDE OF SERIAL NO. TOGETHER AND PLACE IN GRILLE CUP HOLE AND INSTALL GRILLE CUP (.860...3772).
7. PLACE C.L.A. LABEL (.958...7441) APPROXIMATELY WHERE SHOWN.
8. ATTACH MODEL LABEL (.958...6442) CENTERED ABOVE AMP (SEE DETAIL–B).
9. ATTACH GRILLE (.026...6380).

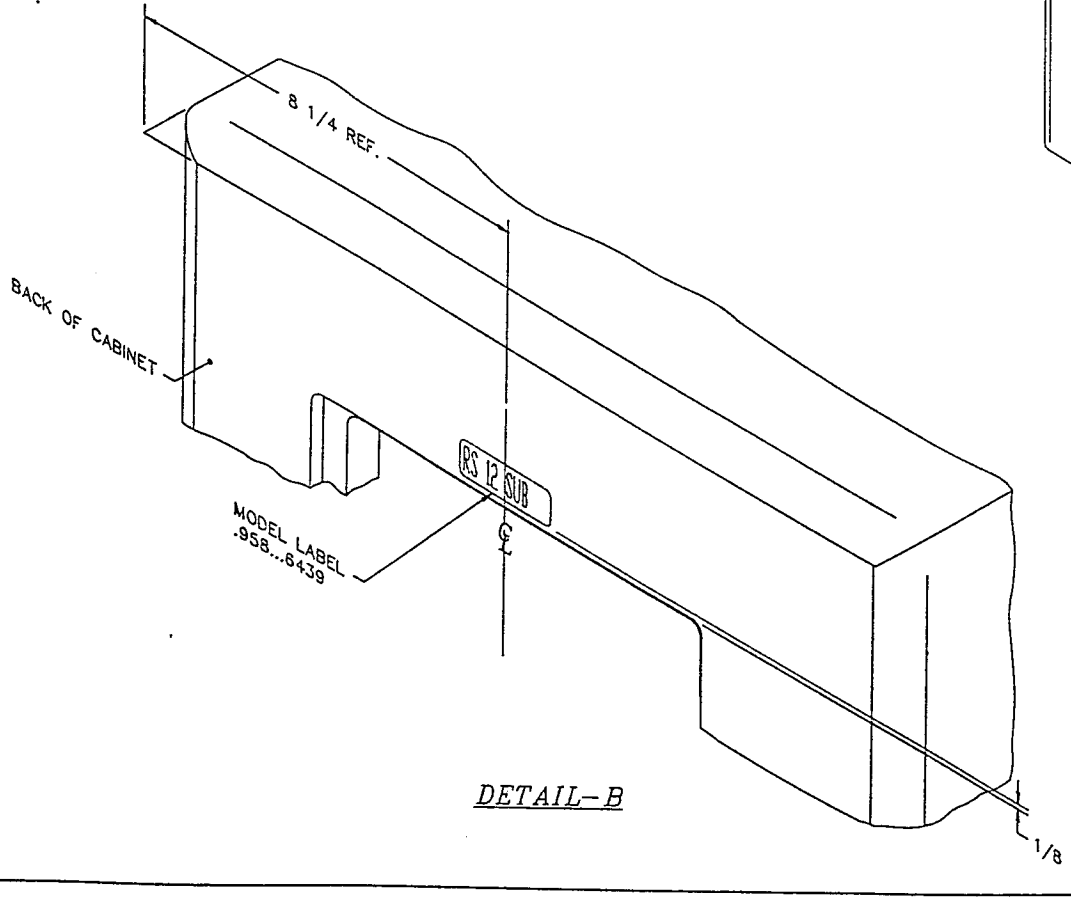




DETAIL–A

Infinity Systems Inc.	
RS 10 SUB	
CABINET ASSEMBLY	
P/N: IF40010/B	
DWG NO: IF40010/B–01431–45A	
DRAWN BY: M. MENZOR	
DATE: 02–19–93	SCALE: 1/4x
APPROVED: J.I. 02–26–93	
CAD FILE NAME: 10FNLASY	
TOLERANCES: ANG: ± = .5' FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: F	SH. 1 OF 2





DETAIL–B

JUN 2 2 1995

INFINITY SYSTEMS, INC. PROPRIETAR
This document contains confidenti
and proprietary information that
the property of Infinity Systems, In
and may not be disclosed to
duplicated for others except as auth
orized by Infinity Systems, Inc.

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
—	A	RELEASE FOR PRODUCTION	03-01-93	J.I.
1176	B	WAS IF70012/B, IS IF40012/B	03-23-93	J.I.
1175	C	WAS 946-6369/B, IS 946-6369	03-24-93	J.I.
1187	D	AMP ENC. P/N 760-6653 WAS 760-4490B	05-17-93	J.I.
1192		WFR P/N 902-6715 WAS 902-5567		
1211	E	ADD BONDED POLYFIBER	07-12-93	J.I.
1357	F	ADDED 940-7670 (SHEET 2 OF 2)	06-02-95	JJ6-14

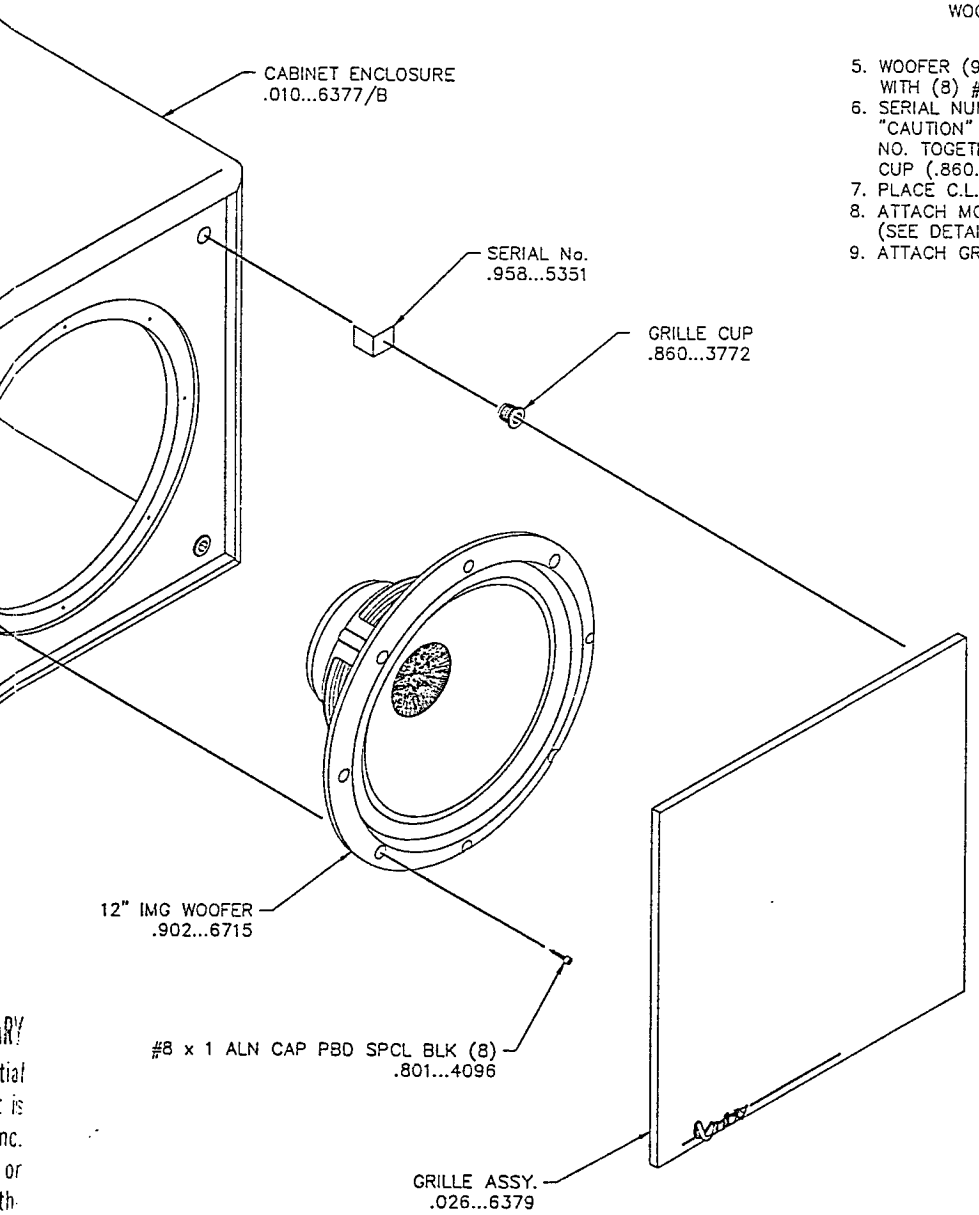
BONDED POLYFIBER (2)
.876...6828

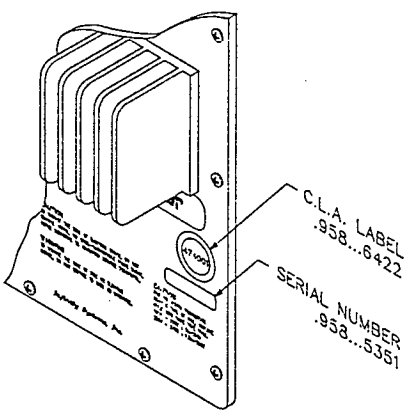
NOTES:

1. ATTACH AMP GASKET (.844...4207) TO AMP STEP ROUT IN CABINET ENCLOSURE ALIGNING SCREW HOLES.
2. ATTACH TWO SHEETS OF BONDED POLYFIBER (.876...6828); ONE TO RIGHT SIDE OF ENCLOSURE AND THE SECOND PIECE MUST HAVE "X" CUT IN THE MIDDLE TO FIT OVER ASSEMBLED PORT TUBE SITTING ON BOTTOM OF ENCLOSURE WITH HOT MELT.
3. PLACE AMP ENCLOSURE (.760...6653) AND AMPLIFIER (.036...6421) IN RECESS IN BACK OF CABINET, SECURE WITH (12) #8 x 1" PPH (.801...3965).
4. CONNECT THE FOLLOWING WIRES:

DRIVERS	POLARITY	WIRE COLOR
WOOFER	+	RED
	−	RED/BLK

5. WOOFER (902-6715) TO BE MOUNTED (CLIPS ORIENTED DOWN) WITH (8) #8 x 1" ALN SCREW (.801...4096).
6. SERIAL NUMBER (.958...5351) TO BE PLACED ON AMPLIFIER ABOVE "CAUTION" LABEL (SEE DETAIL-A), FOLD ADHESIVE SIDE OF SERIAL NO. TOGETHER AND PLACE IN GRILLE CUP HOLE AND INSTALL GRILLE CUP (.860...3772).
7. PLACE C.L.A. LABEL (.958...6422) APPROXIMATELY WHERE SHOWN.
8. ATTACH MODEL LABEL (.958...6439) CENTERED ABOVE AMP (SEE DETAIL-B).
9. ATTACH GRILLE (.026...6379).





DETAIL-A

Infinity Systems Inc.	
RS 12 SUB	
CABINET ASSEMBLY	
P/N: IF40012/B	
DWG NO: IF40012/B-01737-45B	
DRAWN BY: M. MENZOR	
DATE: 02-23-93	SCALE: NONE
APPROVED: J.I. 03-01-93	
CAD FILE NAME: 12FNLASY	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: F	SH. 1 OF 2

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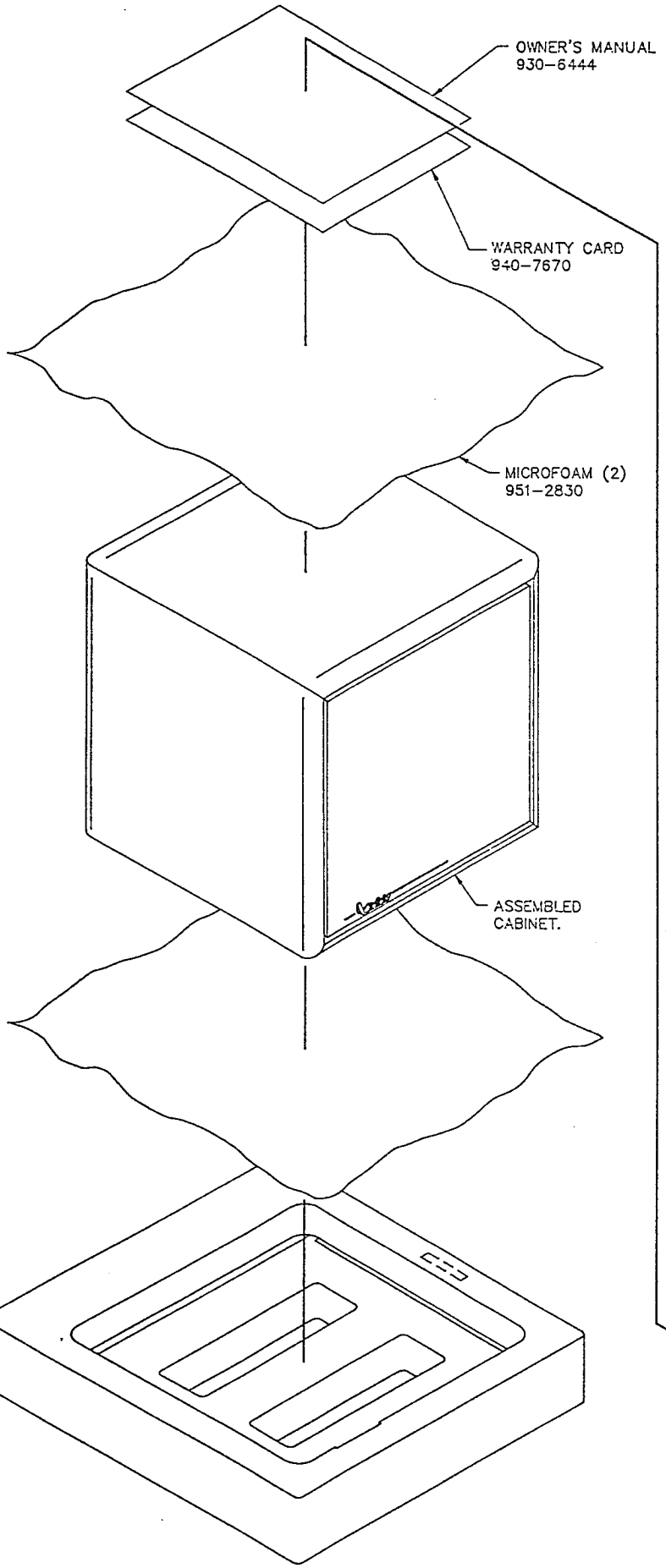
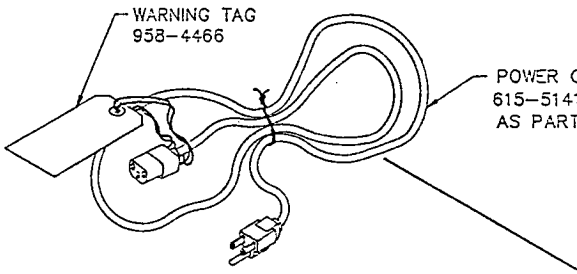
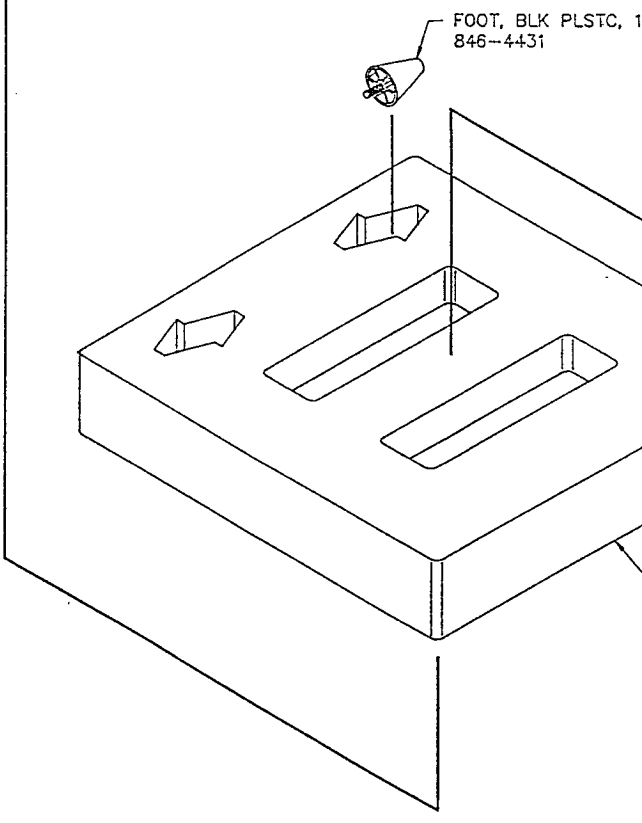
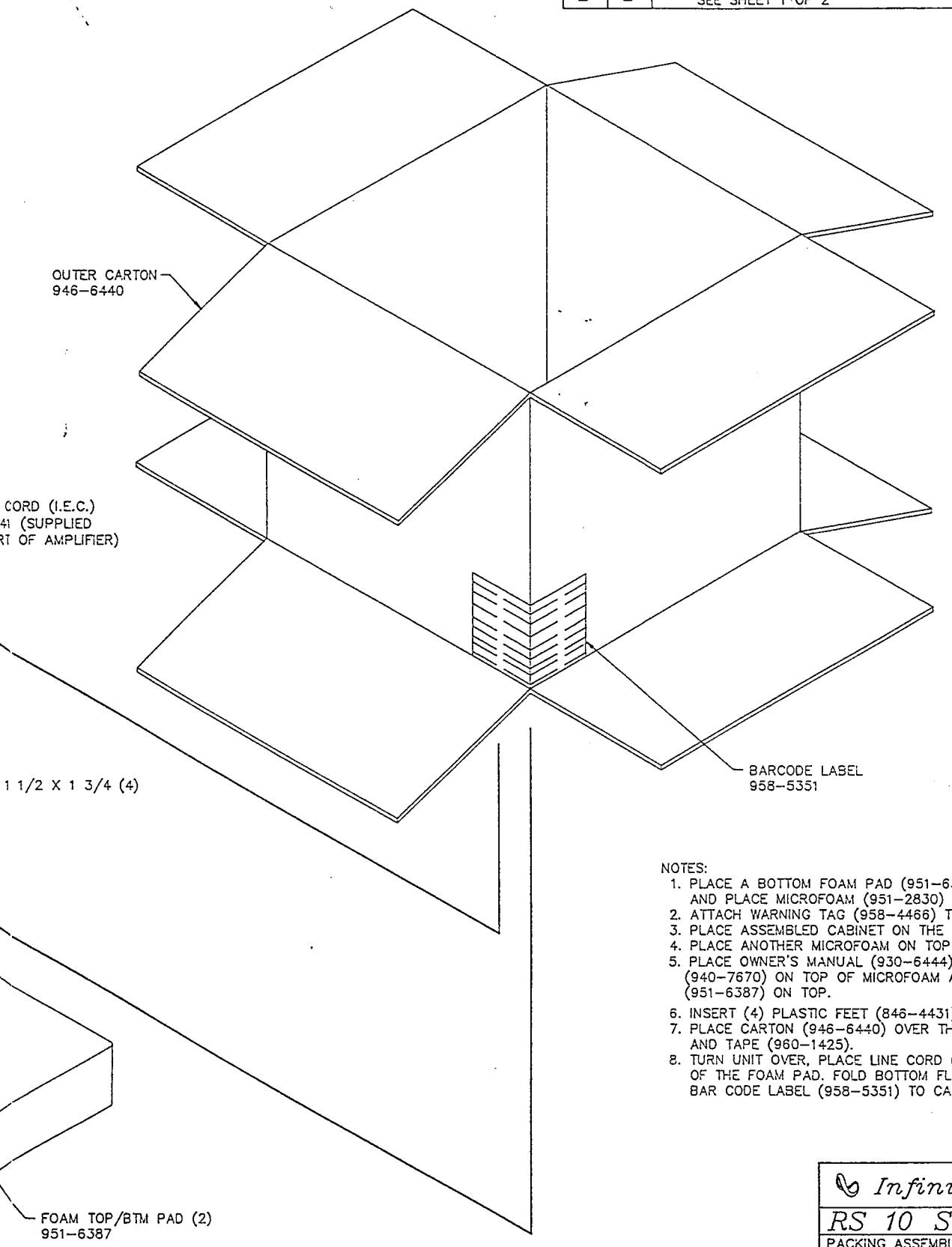






REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 2	–	

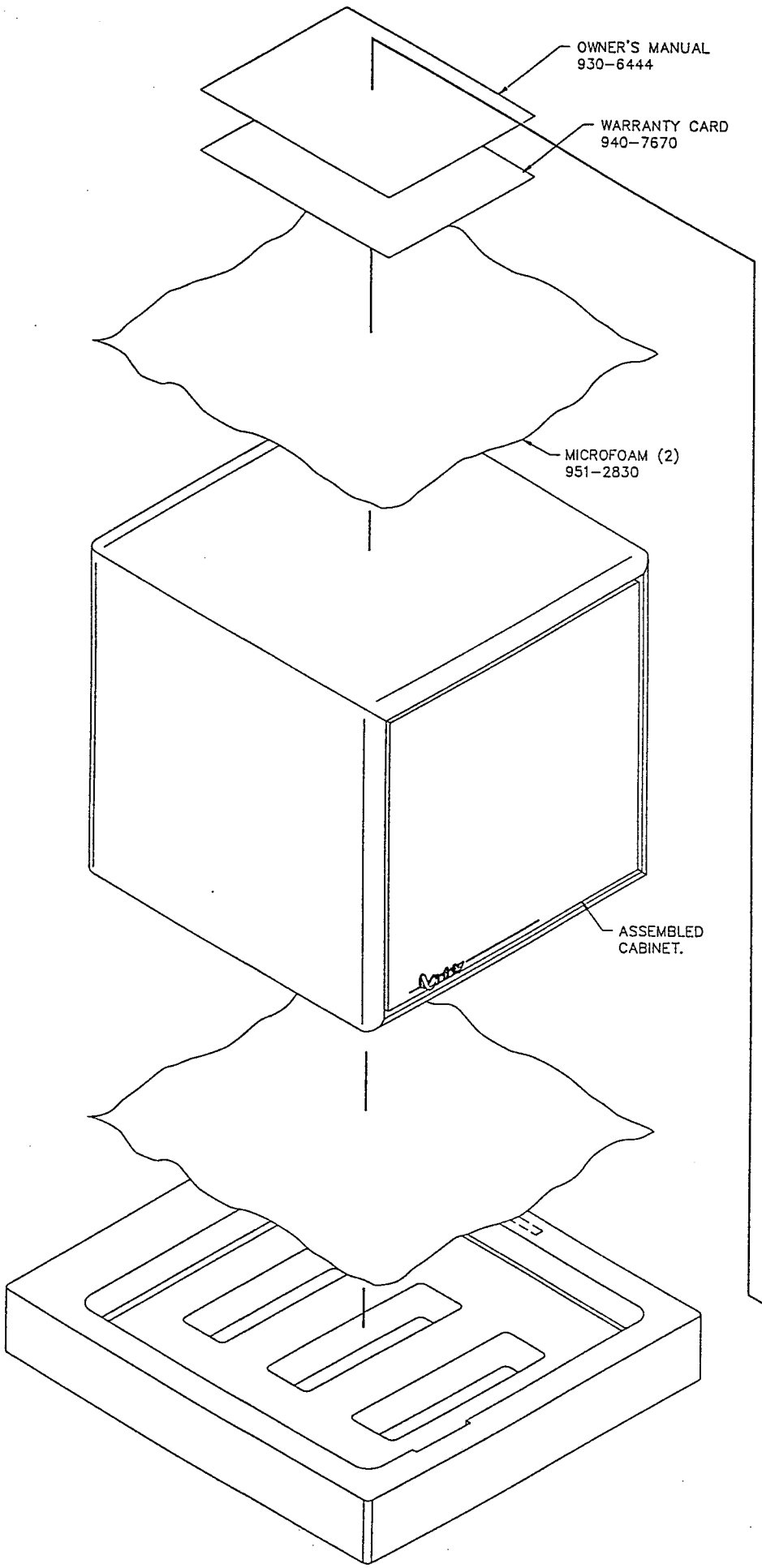


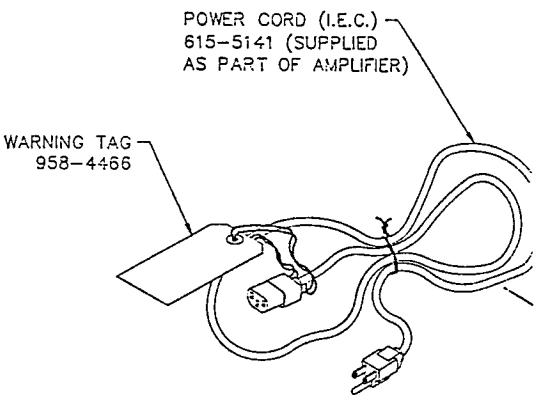
NOTES:

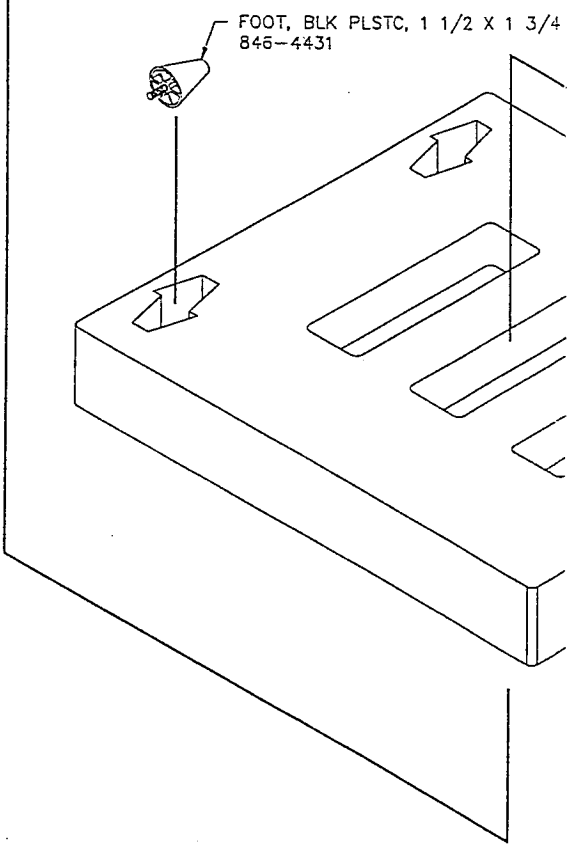
1. PLACE A BOTTOM FOAM PAD (951–6387) ON THE CONVEYOR AND PLACE MICROFOAM (951–2830) ON TOP OF THE FOAM PAD.
2. ATTACH WARNING TAG (958–4466) TO THE LINE CORD.
3. PLACE ASSEMBLED CABINET ON THE BOTTOM FOAM AS SHOWN.
4. PLACE ANOTHER MICROFOAM ON TOP OF THE CABINET.
5. PLACE OWNER'S MANUAL (930–6444) AND WARRANTY CARD (940–7670) ON TOP OF MICROFOAM AND PLACE TOP FOAM PAD (951–6387) ON TOP.
6. INSERT (4) PLASTIC FEET (846–4431) IN THEIR CAVITIES.
7. PLACE CARTON (946–6440) OVER THE UNIT. CLOSE FLAPS AND TAPE (960–1425).
8. TURN UNIT OVER, PLACE LINE CORD (615–5141) IN THE RECESS OF THE FOAM PAD. FOLD BOTTOM FLAPS AND TAPE. ATTACH BAR CODE LABEL (958–5351) TO CARTON.

JUN 22 1995

Infinity Systems Inc.	
RS 10 SUB	
PACKING ASSEMBLY	
P/N: IF40010/B	
DWG NO: IF40010/B–01731–45A	
DRAWN BY: S. CHA	
DATE: 02–23–93	SCALE: 1/4x
APPROVED: J. IRISH 02–26–93	
CAD FILE NAME: 10PKASY	
TOLERANCES: ANG: ± = .5° FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: F	SHT. 2 OF 2

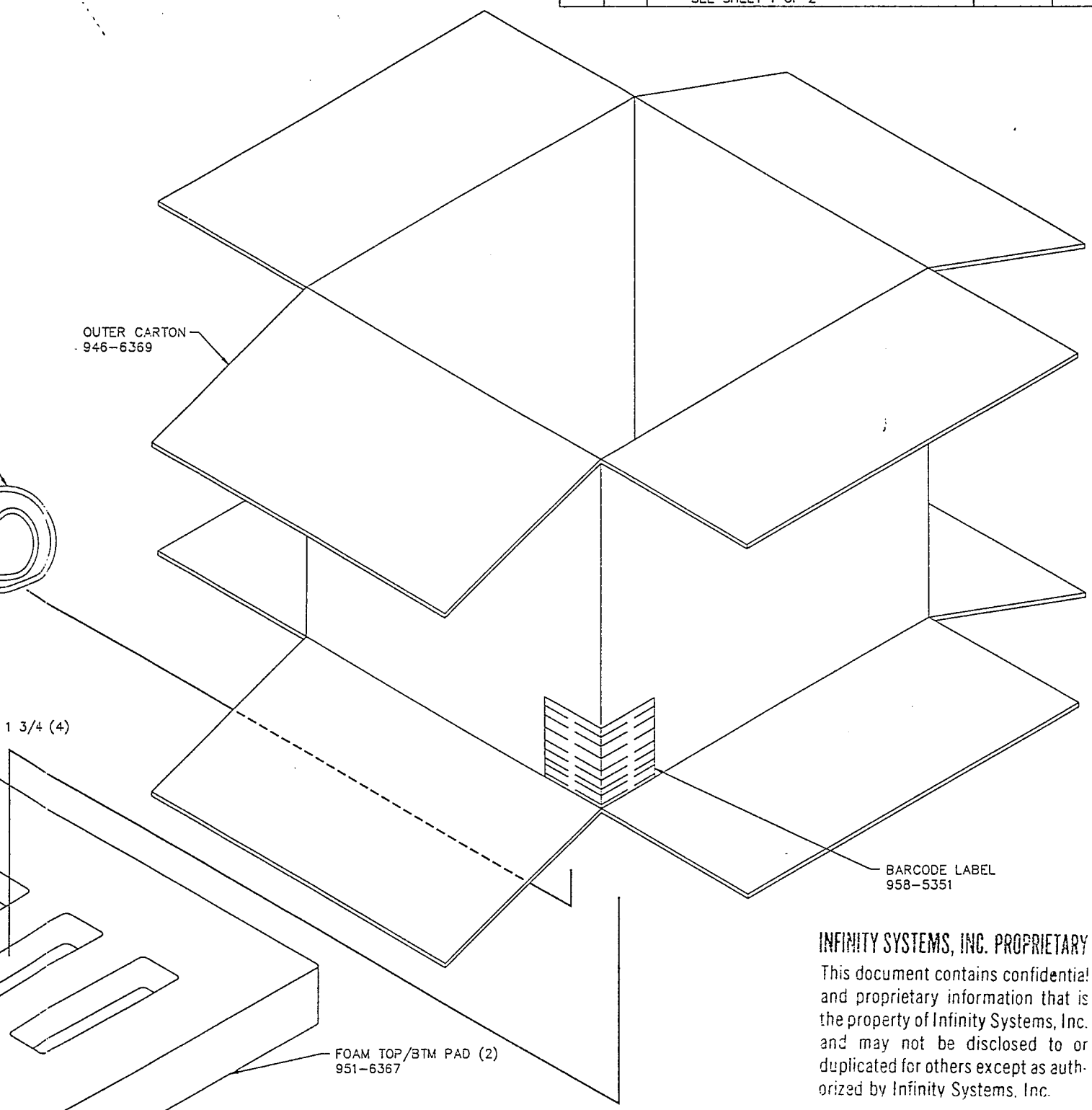

OWNER'S MANUAL
930-6444
WARRANTY CARD
940-7670
MICROFOAM (2)
951-2830
ASSEMBLED
CABINET.


POWER CORD (I.E.C.)
615-5141 (SUPPLIED
AS PART OF AMPLIFIER)
WARNING TAG
958-4466


FOOT, BLK PLSTC, 1 1/2 X 1 3/4
846-4431

JUN 2 2 1995

REVISIONS				
ECO	REV.	DESCRIPTION	DATE	APPROVED
–	–	SEE SHEET 1 OF 2	–	



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NOTES:

1. PLACE A BOTTOM FOAM PAD (951–6367) ON THE CONVEYOR AND PLACE MICROFOAM (951–2830) ON TOP OF THE FOAM PAD.
2. ATTACH WARNING TAG (958–4466) TO THE LINE CORD.
3. PLACE ASSEMBLED CABINET ON THE BOTTOM FOAM AS SHOWN.
4. PLACE ANOTHER MICROFOAM ON TOP OF THE CABINET.
5. PLACE OWNER'S MANUAL (930–6444) AND WARRANTY CARD (940–7670) ON TOP OF MICROFOAM AND PLACE TOP FOAM PAD (951–6367) ON TOP.
6. INSERT (4) PLASTIC FEET (846–4431) IN THEIR CAVITIES.
7. PLACE CARTON (946–6369) OVER THE UNIT. CLOSE FLAPS AND TAPE (960–1425).
8. TURN UNIT OVER, PLACE LINE CORD (615–5141) IN THE RECESS OF THE FOAM PAD. FOLD BOTTOM FLAPS AND TAPE. ATTACH BAR CODE LABEL (958–5351) TO CARTON.

Infinity Systems Inc.	
RS 12 SUB	
PACKING ASSEMBLY	
P/N: IF40012/B	
DWG NO: IF40012/B–01737–45B	
DRAWN BY: M. MENZOR	
DATE: 02–25–93	SCALE: NONE
APPROVED: J.I. 03–01–93	
CAD FILE NAME: 12FNLASY	
TOLERANCES: ANG: ± = .5' FRACT. ± = 1/32 DECIMALS: .XX ± = .01 .XXX ± = .005	
REVISION: F	SHT. 2 OF 2